

TABLE OF CONTENTS

Number keys for alphabetic reference using the first two letters of the topic	3
Review journals and periodicals	14
General reference works, bibliographies, history and philosophy of physics	14
Encyclopaedias and textbooks	25
Conference proceedings, summer schools, complete reference series	26
Mechanics, mechanics of continuum systems, hydrodynamics, oscillations and waves	27
Thermodynamics, statistical physics, quantum statistics	29
Classical fields, electrodynamics, optics, quantum optics, lasers, theories of relativity	31
Quantum theory, quantum mechanics	38
Many-body theory	40
Atomic and molecular physics	41
Nuclear physics	45
Elementary-particle physics, quantum field theory and high-energy physics	55
Solid-state physics, condensed matter	61
Crystallography	67
Mineralogy	70
Metallurgy, metals and alloys	72
Materials science	73
Structure of liquids, physics of gases, plasma physics	74
Astronomy, astrophysics	76
Physics of the Earth – geophysics	81
Physics of the hydrosphere – hydrology	83
Physics and chemistry of the atmosphere – meteorology	84
Polymer physics	86
Experimental methods in fundamental and applied physics	89
Index	90

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS

(page heading)

000 aa - ac
001 ad - af
002 ag - ai
003 aj - al
004 am - ao
005 ap - ar
006 as - ass
007 ast - au
008 av - ax
009 ay - az
010 ba - bc
011 bd - bf
012 bg - bi
013 bj - bl
014 bm - bo
015 bp - br
016 bs - bss
017 bst - bu
018 bv - bx
019 by - bz
020 ca - cc
021 cd - cf
022 eg - ei
023 cj - cl
024 cm - co
025 cp - cr
026 cs - css

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

027 cst - cu
028 cv - cx
029 cy - cz
030 da - dc
031 dd - df
032 dg - di
033 dj - dl
034 dm - do
035 dp - dr
036 ds - dss
037 dst - du
038 dv - dx
039 dy - dz
040 ea - ec
041 ed - ef
042 eg - ei
043 ej - el
044 em - eo
045 ep - er
046 es - ess
047 est - eu
048 ev - ex
049 ey - ez
050 fa - fc
051 fd - ff
052 fg - fi
053 fj - fl

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

054 fm - fo
055 fp - fr
056 fs - fss
057 fst - fu
058 fv - fx
059 fy - fz
060 ga - ge
061 gd - gf
062 gg - gi
063 gj - gl
064 gm - go
065 gp - gr
066 gs - gss
067 gst - gu
068 gv - gx
069 gy - gz
070 ha - hc
071 hd - hf
072 hg - hi
073 hj - hl
074 hm - ho
075 hp - hr
076 hs - hss
077 hst - hu
078 hv - hx
079 hy - hz
080 ia - ic

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

081 id - if
082 ig - ii
083 ij - il
084 im - io
085 ip - ir
086 is - iss
087 ist - iu
088 iv - ix
089 iy - iz
090 ja - jc
091 jd - jf
092 jg - ji
093 jj - jl
094 jm - jo
095 jp - jr
096 js - jss
097 jst - ju
098 jv - jx
099 jy - jz
100 ka - kc
101 kd - kf
102 kg - ki
103 kj - kl
104 km - ko
105 kp - kr
106 ks - kss
107 kst - ku

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

108 kv - kx
109 ky - kz
110 la - lc
111 ld - lf
112 lg - li
113 lj - ll
114 lm - lo
115 lp - lr
116 ls - lss
117 lst - lu
118 lv - lx
119 ly - lz
120 ma - mc
121 md - mf
122 mg - mi
123 mj - ml
124 mm - mo
125 mp - mr
126 ms - mss
127 mst - mu
128 mv - mx
129 my - mz
130 na - nc
131 nd - nf
132 ng - ni
133 nj - nl
134 nm - no

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

135 np - nr
136 ns - nsp
137 nst - nu
138 nv - nx
139 ny - nz
140 oa - oc
141 od - of
142 og - oi
143 oj - ol
144 om - oo
145 op - or
146 os - oss
147 ost - ou
148 ov - ox
149 oy - oz
150 pa - pc
151 pd - pf
152 pg - pi
153 pj - pl
154 pm - po
155 pp - pr
156 ps - pss
157 pst - pu
158 pv - px
159 py - pz
160 qa - qc
161 qd - qf

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

162 qg - qi
163 qj - ql
164 qm - qo
165 qp - qr
166 qs - qss
167 qst - qu
168 qv - qx
169 qy - qz
170 ra - rc
171 rd - rf
172 rg - ri
173 rj - rl
174 rm - ro
175 rp - rr
176 rs - rss
177 rst - ru
178 rv - rx
179 ry - rz
180 sa - scg
181 scha - sche
182 schd - schf
183 schg - schi
184 schj - schl
185 schm - scho
186 schp - schr
187 schs - schss
188 schst – schu

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

189 schv - schx
190 schy - schz
191 sd - sf
192 sg - si
193 sj - sl
194 sm - so
195 spa - spc
196 spd - spf
197 spg - spi
198 spj - spl
199 spm - spo
200 spp - spr
201 sps - spss
202 spst - spu
203 spv - spx
204 spy - spz
205 sq
206 sr
207 ss
208 sta - stc
209 std - stf
210 stg - sti
211 stj - stl
212 stm - sto
213 stp - str
214 sts - stss
215 stst – stu

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

216 stv - stz
217 su
218 sv - sx
219 sy - sz
220 ta - tc
221 td - tf
222 tg - ti
223 tj - tl
224 tm - to
225 tp - tr
226 ts - tss
227 tst - tu
228 tv - tx
229 ty - tz
230 ua - uc
231 ud - uf
232 ug - ui
233 uj - ul
234 um - uo
235 up - ur
236 us - uss
237 ust - uu
238 uv - ux
239 uy - uz
240 va - vc
241 vd - vf
242 vg - vi

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

243 vj - vl
244 vm - vo
245 vp - vr
246 vs - vss
247 vst - vu
248 vv - vx
249 vy - vz
250 wa - wc
251 wd - wf
252 wg - wi
253 wj - wl
254 wm - wo
255 wp - wr
256 ws - wss
257 wst - wu
258 wv - wx
259 wy - wz
260 xa - xc
261 xd - xf
262 xg - xi
263 xj - xl
264 xm - xo
265 xp - xr
266 xs - xss
267 xst - xu
268 xv - xx
269 xy - xz

NUMBER KEYS FOR ALPHABETIC REFERENCE USING THE FIRST TWO LETTERS (page heading)

270 ya - yc
271 yd - yf
272 yg - yi
273 yj - yl
274 ym - yo
275 yp - yr
276 ys - yss
277 yst - yu
278 yv - yx
279 yy - yz
280 za - zc
281 zd - zf
282 zg - zi
283 zj - zl
284 zm - zo
285 zp - zr
286 zs - zss
287 zst - zu
288 zv - zx
289 zy - zz

UA

1000 Review journals and periodicals.

For an explanation of the notation cf. RVK online information.

UB

General reference works, bibliographies, history and philosophy of physics.

- 1001 - 1010** General reference works for the field of physics
- 1012** Address lists of companies and sources of material
- 1014** Commercial catalogues
- 1015** Aspects of nomenclature
- 1020** Introduction to the use of the literature in the field of physics
- 1024** Guides for writing physics articles and giving lectures on physics
- 1025** Bibliographies of periodical titles for physics journals
- 1027** Research programmes
- 1028** Bibliographies of dissertations in the field of physics
- 1030 - 1067** Current bibliographies of sub-fields in physics
- 1030** Current bibliographies of reports on physics: *cf. UA 1000 ff.*
- 1031** History of physics
- 1036** Mechanics, mechanics of continuum systems, hydrodynamics, oscillations and waves.
- 1038** Thermodynamics, statistical physics, quantum statistics
- 1040** Classical fields, electrodynamics, optics, lasers, quantum optics, theories of relativity.
- 1044** Quantum theory, quantum mechanics
- 1046** Many-body theory
- 1048** Atomic and molecular physics
- 1050** Nuclear physics
- 1052** Elementary-particle physics, high-energy physics.
- 1054** Solid-state physics, condensed matter
- 1056** Crystallography, mineralogy, metallurgy, materials science.
- 1058** Structure of liquids, physics of gases, plasma physics.
- 1062** Astronomy, astrophysics
Indiv. signum: Astronomy & Astrophysics Abstracts
- 1064** Geophysics, meteorology, physics of aerosols
- 1065** Polymer physics
- 1067** Experimental methods in fundamental and applied physics
- 1070 - 1107** Retrospective bibliographies of sub-fields in physics
- 1070** Retrospective (complete) bibliographies and library catalogues for the entire field of physics.
- 1076** Mechanics, mechanics of continuum systems, hydrodynamics, oscillations and waves.
- 1078** Thermodynamics, statistical physics, quantum statistics
- 1080** Classical fields, electrodynamics, optics, lasers, quantum optics, theories of relativity.
- 1084** Quantum theory, quantum mechanics
- 1086** Many-body theory
- 1088** Atomic and molecular physics
- 1090** Nuclear physics
- 1092** Elementary-particle physics, high-energy physics
- 1094** Solid-state physics, condensed matter
- 1096** Crystallography, mineralogy, metallurgy, materials science
- 1098** Structure of liquids, physics of gases, plasma physics
- 1102** Astronomy, astrophysics
- 1104** Geophysics, meteorology, physics of aerosols
- 1105** Polymer physics
- 1107** Experimental methods of fundamental and applied physics.
- 1110 +Z2S** Dictionaries of physics terminology.
Ordered by the number keys with reference to the lesser-known language (CSN of the editor).

1400 - 1490	Terminology dictionaries for the field of physics
1400	General physics
1405	Mechanics, mechanics of continuum systems, hydrodynamics, oscillations and waves
1415	Thermodynamics, statistical physics, quantum statistics
1420	Classical fields, electrodynamics, optics, lasers, quantum optics, theories of relativity
1430	Quantum theory, quantum mechanics
1435	Many-body theory
1440	Atomic and molecular physics
1445	Nuclear physics
1450	Elementary-particle physics, high-energy physics
1455	Solid-state physics, condensed matter
1460	Crystallography, mineralogy, metallurgy, materials science
1470	Structure of liquids, physics of gases, plasma physics
1475	Astronomy, astrophysics
1485	Geophysics, meteorology, physics of aerosols
1487	Polymer physics
1490	Experimental methods in fundamental and applied physics
1700	Bibliographies of biographical reference works on physicists in general
1710 +Z2S	Personal bibliographies. <i>Ordered according to the number keys (CSN of the editor).</i>
2005 - 2090	Index of researchers in individual sub-fields, <i>(used only if their research activity is limited to a single sub-field, such as astronomers, meteorologists etc.)</i>
2005	Mechanics, mechanics of continuum systems, hydrodynamics, oscillations and waves
2015	Thermodynamics, statistical physics, quantum statistics
2020	Classical fields, electrodynamics, optics, lasers, quantum optics, theories of relativity
2030	Quantum theory, quantum mechanics
2035	Many-body theory
2040	Atomic and molecular physics
2045	Nuclear physics
2050	Elementary-particle physics, high-energy physics
2055	Solid-state physics, condensed matter
2060	Crystallography, mineralogy, metallurgy, materials science
2070	Structure of liquids, physics of gases, plasma physics
2075	Astronomy, astrophysics
2085	Geophysics, meteorology, physics of aerosols
2088	Polymer physics
2090	Experimental methods in fundamental and applied physics
2300 - 2490	History of physics
2300	General overviews
2310	Antiquity
2320	Middle Ages
2340	Modern period, overall
2360	History of physics up to the end of the 18 th century
2380	History of modern physics, 19 th and 20 th centuries (up to 1930)
2385	20 th century (from 1930)
2405 - 2490	History of individual sub-fields and topics
2405	Mechanics, mechanics of continuum systems, hydrodynamics, oscillations and waves
2415	Thermodynamics, statistical physics, quantum statistics
2420	Classical fields, electrodynamics, optics, lasers, quantum optics, theories of relativity
2430	Quantum theory, quantum mechanics
2435	Many-body theory
2440	Atomic and molecular physics
2445	Nuclear physics
2450	Elementary-particle physics, high-energy physics
2455	Solid-state physics, condensed matter

- 2460 Crystallography, mineralogy, metallurgy, materials science
 2470 Structure of liquids, physics of gases, plasma physics
 2475 - 2484 Astronomy, astrophysics
 2475 General overview
 2476 Babylonians
 2477 Ancient Greece
 2478 Middle Ages
 2479 Modern period
 2480 16th century
 2481 17th century
 2482 18th century
 2483 19th century
 2484 20th century
 2485 Geophysics, meteorology, physics of aerosols
 2487 Polymer physics
 2490 Experimental methods in physics, physics technology
- 2502 - 2799 Collected works
 2502 – 2510 *Authors A*
 2502 Abbe, Ernst
 2505 Aitken, John
 2510 Arago, Francois
 2513 – 2540 *Authors B*
 2513 Bethe, Hans A.
 2515 Bloch, Claude
 2520 Bohr, Niels
 2525 Boltzmann, Ludwig
 2530 Born, Max
 2532 Boyle, Robert
 2535 Bradley, Percy
 2537 Brahe, Tycho
 2540 Bridgman, James
 2542 Broglie, Louis de
 2545 - 2555 *Authors C*
 2545 Cavendish, Henry
 2546 Chandrasekhar, Subrahmanyan
 2548 Compton, Arthur Holly
 2549 Condon, Edward Uhler
 2662 Copernicus, Nicolaus
 2554 Curie, Marie
 2555 Curie, Pierre
 2558 – 2560 *Authors D*
 2558 Dirac, Paul Adrien Maurice
 2560 Dyson, Freeman J.
 2565 – 2570 *Authors E*
 2565 Ehrenfest, Paul
 2570 Einstein, Albert
 2573 – 2590 *Authors F*
 2573 Fabry, Charles
 2574 Faddeev, Ludwig D.
 2575 Faraday, Michael
 2580 Fermi, Enrico
 2585 Fraunhofer, Joseph von
 2590 Fuchs, Johann N. von
 2592 – 2595 *Authors G*
 2592 Galilei, Galileo
 (See also [IU 9175](#)).
 2594 Gennes, Pierre-Gilles de
 (French physicist; 1932-2007).
 2595 Ginzburg, Vitaly L.
 2598 – 2625 *Authors H*
 2598 Hamilton, William Rowan
 2600 Heaviside, Oliver

- 2603 Heisenberg, Werner
2605 Helmholtz, Hermann von
2610 Henry, Joseph
2615 Hertz, Heinrich
2620 Hooke, Robert
2625 Huygens, Christiaan
2630 – 2630 *Authors I*
2630 Ignatovskiy, Vladimir Sergeevich
2635 – 2640 *Authors J*
2635 Jeffreys, Harold
2640 Joule, James Prescott
2642 – 2664 *Authors K*
2642 Kamerlingh Onnes, Heike
2645 Kapitza, Peter L
2650 Kelvin, William Thomson, Lord
2652 Kepler, Johannes
(See also *CE 6800* und *NU 5103*).
2655 Kirchhoff, Gustav
2660 Kirkwood, John Gamble
2664 Kubo, Ryogo
2665 – 2682 *Authors L*
2665 Landau, Lev Davidovich
2670 Langmuir, Irving
2675 Laue, Max von
2676 Lee, Tsung-Dao
2677 Lieb, Elliot H.
2678 Lifshitz, Evgeny M.
2680 Löbl, Oskar
2682 Loschmidt, Joseph
(Austrian physicist and chemist; naturalist; 1821-1895).
2685 – 2691 *Authors M*
2685 Maxwell, James Clerk
2690 Mayer, Robert
2691 Mayer, Tobias
2693 Meitner, Lise
2695 – 2700 *Authors N*
2695 Néel, Louis
2700 Newton, Isaac, Sir
(See also *CF 6800*).
2705 – 2705 *Authors O*
2705 Onsager, Lars
2710 – 2732 *Authors P*
2710 Pascal, Blaise
(See also *CF 6860*).
2715 Pauli, Wolfgang
2720 Planck, Max
2725 Powell, Cecil Frank
2730 Prandtl, Ludwig
2732 Proca, Alexandre
2733 – 2735 *Authors R*
2733 Raman, Chandrasekhara Venkata
2734 Rivlin, Ronald S.
2735 Rutherford, Ernest, Lord
2737 – 2756 *Authors S*
2737 Salam, Abdus
2740 Sano, Shizuwo
2745 Schiaparelli, Giovanni
2747 Schrödinger, Erwin
2748 Schwarzschild, Karl
2749 Schwinger, Julian S.
2750 Selényi, Pal
2753 Skyrme, Tony Hilton Royle
2755 Sommerfeld, Arnold

- 2756 Stevin, Simon
- 2757 – 2765 *Authors T*
- 2757 Tamm, Igor E.
- 2758 Tesla, Nikola
- 2760 Thomson, James
- 2765 Tomonaga, **Shin'ichiro**
- 2773 – 2773 *Authors V*
- 2773 Volta, Alessandro
- 2778 – 2778 *Authors W*
- 2778 Wigner, Eugene Paul
(Nobel prizewinner; American physicist of Austro-Hungarian origin; 17.11.1902-01.01.1995).
- 2780 Wolf, Max
- 2785 – 2785 *Authors Y*
- 2785 Young, Thomas
- 2799 **Others**
(CSN)
- 2800 **Anthologies of classic papers**
- 2810 +**Z2S** **Individual classic papers**
(Ordered by authors using the number keys and CSN of the editor, e.g. Ostwald's classics).
- 3100 - 3399 **Collected biographies of physicists**
- 3100 **General overview**
- 3110 +**Z2S** **Biographies and autobiographies of physicists,**
including biographical material such as correspondence (ordered by the number keys for the subjects of the biographies and the CSN of the author or editor).
- 3410 +**Z2S** **Festschriften and memorial publications for individual persons**
(Ordered by the number key for the subject and the CSN of the editor).
- 3710 +**Z2S** **Festschriften and memorial publications for groups**
(e.g. companies such as Hoechst, BASF) (ordered by number key for the group and CSN of the editor or author).
- 4010 **Research planning**
- 4020 **Curiosities, perpetual motion machines, etc.**
- 4049 - 4060 **Didactics of physics**
- 4049 **General didactics of physics**
- 4050 **Physics education, college curricula**
- 4052 **Aspects of professional education and professions within physics**
- 4053 **Physics experiments for schools**
- 4056 **Didactics for physics education in schools**
(See also *DP 2700*).
- 4060 **Didactics teaching materials**
- 4070 – 4079 **School textbooks**
- 4070 **General treatments of physics, works at all levels**
- 4071 **Textbooks for technical colleges, adult education, correspondence and online courses**
- 4072 - 4079 **School textbooks for:**
- 4072 **High schools, upper forms (classes 11-12)**
- 4073 **Middle schools, middle forms (classes 7-10)**
- 4074 **Technical schools**
- 4075 **Secondary schools**
- 4076 **Elementary schools**
- 4077 **Special education etc.**
- 4079 **Preschools,**
(if not included in science education (*TB 4070*)).
- 4080 **Continuing education**
- 4085 **Examination preparation for teaching and masters degrees**
- 4090 - 4097 **Curricula for:**
- 4090 **University level courses**
- 4091 **Technical schools, adult education, correspondence and online courses**
- 4092 **High schools, upper forms (classes 11-12)**
- 4093 **Middle schools, middle forms (classes 7-10)**

- 4094 Technical schools
- 4095 Secondary schools
- 4096 Elementary schools
- 4097 Special education etc.
- 4100 - 4150 Occupational safety
 - 4100 Laboratory equipment and plant
 - 4150 Prevention of accidents and safety rules
- 5000 - 5340 Popularisations
 - 5000 Popular science, general
 - 5020 Popular physics, general
 - 5040 Mechanics, mechanics of continuum systems, hydrodynamics, oscillations and waves.
 - 5060 Thermodynamics, statistical physics, quantum statistics
 - 5080 Classical fields, electrodynamics, optics, lasers, quantum optics, theories of relativity.
 - 5100 Quantum theory, quantum mechanics
 - 5120 Many-body theory
 - 5140 Atomic and molecular physics
 - 5160 Nuclear physics
 - 5180 Elementary-particle physics, high-energy physics.
 - 5200 Solid-state physics, condensed matter.
 - 5220 Crystallography, mineralogy, metallurgy, materials science.
 - 5240 Structure of liquids, physics of gases, plasma physics.
 - 5260 Astronomy, astrophysics
 - 5280 Geophysics, meteorology, physics of aerosols.
 - 5290 Polymer physics
 - 5300 Experimental methods in fundamental and applied physics
 - 5340 Other sub-fields or groups of related sub-fields, supplements.
(See also literature with the notations of systematic compilations from other fields).
- 6000 - 9000 Physics and philosophy
 - 6000 General physics and philosophy
Philosophy of physics; see also CC 3500
 - 6500 Causality
 - 7000 Philosophical problems of quantum mechanics
 - 7500 Space and time
 - 8000 Determinism and indeterminism
 - 8500 Quantum mechanics and the problem of objectivity
 - 9000 Other topics in philosophy
e.g. dimensional equations...

UC ENCYCLOPAEDIAS AND TEXTBOOKS UC

(page heading)

UC Encyclopaedias and textbooks

- 100 - 299 General physics textbooks
 - 100 - 199 from 1900 – 1999
(Ordered by the last two numbers of the year in which the 1st edition was published).
 - 200 - 299 from 2000 – 2099
(Ordered by the last two numbers of the year in which the 1st edition was published).
- 300 Collections of physics problems, formula tabulations
- 400 Physics teaching laboratories
- 500 Physics encyclopaedias and thesauri (*CSN of the editor*)
- 550 Major physics encyclopaedias and thesauri (*CSN of the editor*)
- 600 Information technology in physics in general
(See also [ST 630](#)).

- UD Conferences, summer schools, complete publications series**
- 1900 - 2999** **Conferences on general or theoretical physics**
(Ordered by the year of the conference with the CSN of the place name).
- 4000 - 5999** **Summer schools, periodic conferences on general topics**
(For conferences on special topics: cf. the corresponding topic).
- 4124 **Lectures in theoretical physics, summer institutes on theoretical physics: Boulder, University of Colorado**
- 4304 **Cargese lectures in theoretical physics**
- 4305 **Cargese lectures in physics**
- 4345 **Coral Gables Conferences**
- 4615 **Scuola Internazionale di Fisica**
- 4847 **Ecole d'Eté de Physique Théorique (Les Houches): Sessions**
- 5225 **Liperi Summer School in Theoretical Physics: Proceedings**
- 5600 **The Open University**
- 5630 **Plansee Seminar, lectures**
- 6100 - 9360** **Complete publications series**
- 6100 **Masters theses, *Habilitation* theses;**
comprehensive works within universities (CSN of the author's name).
- 6301 **Ramakrishnan: Symposia on theoretical physics**
- 7566 **Essays in Physics**
- 8000 **Hamburger Contributions on Applied Mineralogy**
- 8210 **Lebedev Physics Institute Proceedings**
- 8220 **Lecture Notes in physics**
- 8221 **Lecture Notes in physics/M**
- 8400 **Materials Research Society Symposium Proceedings**
- 9225 **Seminaire de Théories Physiques. Ed.: Louis de Broglie,**
(up to Vol. 37 under the title: Ergebnisse der exakten Naturwissenschaften).
- 9310 **Springer tracts in modern physics**
- 9360 **Institute for Solid State Physics: Technical Reports (ISSP Ser. A)**
- 9450 **Topics in applied physics**
- 9460 **Topics in current physics**

UF MECHANICS, MECHANICS OF CONTINUUM SYSTEMS, HYDRODYNAMICS,
 OSCILLATIONS AND WAVES UF (page heading)

- UF **Mechanics, mechanics of continuum systems, hydrodynamics, oscillations**
- 1000 **Mechanics, general**
 - 1020 **Compendia, lecture series, reviews**
 - 1030 **Specialised dictionaries and encyclopaedias**
 - 1050 **Collections of exercises from the field of mechanics**
 - 1070 **Tables, tabulations**
 - 1090 **Complete publications series**
 - 1100 **Conferences, symposia, summer schools on mechanics, mechanics of**
 - 1199.99 **continuum systems, hydrodynamics, oscillations**
(Ordered by the last two numbers of the year of the conference).
 - 1100 - 1199 **for 1900 – 1999**
(Ordered by the last two numbers of the year of the conference).
 - 1199.00 – 1199.99 **for 2000 – 2099**
(Ordered by the last two numbers of the year of the conference).
 - 1200 **Statics and the mechanics of rigid bodies**
 - 1500 **Applied mechanics**
 - 1500a **Celestial mechanics: see US 1200**
 - 1570 **Pole structures, beams, girders**
 - 1590 **Shoring**
 - 1610 **Stability (bending, folding, buckling)**
 - 1800 **Strength of materials,**
(long-term strength, fatigue strength, mechanics of breakage, fatigue)
 - 1900 **Kinematics**
 - 1950 **Kinetics (dynamics)**
 - 2000 **Mechanics of continuum systems, general**
 - 3000 **Theory of elasticity**
 - 3100 **Plasticity**
(See also polymer physics, UV 4000 ff).
 - 3150 **Mechanics of breakage**
 - 3200 **Thermoelasticity**
 - 3300 **Photoelasticity**
 - 3500 **Rheology**
 - 4000 **Fluid mechanics, fluid dynamics, mechanics of liquids and gases**
(hydraulics, pipe flow, coagulation flow)
 - 4050 **Statistical hydrodynamics, statistical fluid mechanics**
 - 4100 **Laminar flow**
 - 4200 **Theory of interfaces including lubrication theory**
 - 4300 **Turbulent flow**
 - 4500 **Applied hydrodynamics**
 - 4700 **Aerodynamics, general**
 - 4750 **Compressible flow,**
(infrasonic and supersonic flow, flow profiles, shock waves, interfaces, turbulence).
 - 4800 **Gas dynamics**
 - 5000 - 6900 **OSCILLATIONS, WAVES, ACOUSTICS**
 - 5000 **Oscillations and waves, general**
 - 5100 **Elementary theory of oscillations**
 - 5200 **Oscillations in technology (percussion, vibration, damping, absorption)**
 - 6000 **Acoustics, general**
 - 6200 **Propagation of sound waves and acoustic surface waves**
 - 6300 **Ultrasonics, opto-acoustics, *Schlieren* method**
 - 6310 **Ultrasonic tomography**
 - 6400 **Shock waves**
 - 6700 **Physical music theory (tonal acoustics)**
 - 6800 **Physics of hearing (physiological acoustics)**
 - 6900 **Applied and technical acoustics, sound technology,**
(noise reduction, ultrasonic and infrasonic technology, production of sound, e.g. sirens).

UG	Thermodynamics, statistical physics, quantum statistics
1000	Thermodynamics, general classical phenomenology
1020	Compendia, lecture series, reviews
1030	Specialised dictionaries and encyclopaedias
1050	Collections of exercises for thermodynamics
1070	Thermodynamics tabulations
1090	Complete publications series
1100	Conferences, symposia, summer schools on the entire field
- 1199.99	of thermodynamics <i>(Ordered by the last two numbers of the year of the conference).</i>
1100 - 1199	for 1900 – 1999 <i>(Ordered by the last two numbers of the year of the conference).</i>
1199.00	for 2000 – 2099
- 1199.99	<i>(Ordered by the last two numbers of the year of the conference).</i>
1200	Applied and technical thermodynamics
1300	Kinetic theory of gases, gas dynamics <i>Statistical mechanics of gases: see UG 3100.</i>
2000	Thermodynamics of irreversible processes, relaxation, spin relaxation. General theories of systems with spins and pseudospins. <i>Applications to the theory of magnetism, spin waves, spin glass theory.</i> <i>For spin temperatures: see UP 6700.</i>
2300	Theory of transport processes, general <i>Transport processes in semiconductors: see UP 3200</i>
2500	Heat transport, general
2600	Heat conductivity
2700	Convection
2800	Thermal radiation
2850	Thermal insulation
2900	Matter transport (matter exchange, diffusion)
3000	Entropy and information theory
3100	Statistical mechanics, Ising model, order-disorder models, percolation theory, cellular automata
3500	Statistical thermodynamics
3700	Fluctuations, noise, reciprocal noise
3800	Theory of phase transitions
3900	Synergetics, cooperative and collective phenomena, spontaneous ordering processes, branching processes, chaotic processes, fractals, self-organising systems, critical phenomena.
4000	Quantum statistics
4000a	Fractional statistics and anyons: see UO 4100

- UH **Classical fields, electrodynamics, optics, quantum optics, lasers, theories of relativity**
- 1000 - 4000 Classical fields, electrodynamics**
- 1000 General electrodynamics, electromagnetism**
- 1020 Compendia, lecture series, reviews**
- 1030 Specialised dictionaries and encyclopaedias**
- 1050 Collections of exercises for electrodynamics**
- 1070 Tables, tabulations**
- 1090 Complete publications series**
- 1100 Conferences, symposia, summer schools on the entire field**
- 1199.99 of electrodynamics**
(Ordered by the last two numbers of the year of the conference).
- 1100 - 1199 for 1900-1999**
(Ordered by the last two numbers of the year of the conference).
- 1199.00 for 2000-2099**
- 1199.99 *(Ordered by the last two numbers of the year of the conference).*
- 2000 Electrostatics**
- 2500 Magnetostatics**
- 3000 Electromagnetic waves, waveguides, cavity resonators, coaxial cables, surface waves, Rayleigh waves**
(See also ZN 6000 ff).
- 3500 Electrical conductivity, general**
For electrical conductivity in solids, see also UP 5000; superconductivity cf. UP 2200; thermoelectricity cf. UP 5400; see also solid-state physics, UP 1000 ff; semiconductors cf. UP 2800; electrical properties of solids cf. UP 4500; dielectrics cf. UP 5100; ferroelectricity cf. UP 4700; for piezoelectric materials cf. UP 4900.
- 4000 Technical electrodynamics for physicists; electronics cf. UX 2100**
(See also ZN 1000 ff).
- 5000 - 5500 Physical optics**
For optical properties of solids, cf. UP 8000 ff.
- 5000 General overview**
- 5020 Compendia, lectures, reviews**
- 5030 Specialised dictionaries and encyclopaedias**
- 5050 Collections of exercises for optics and quantum optics**
- 5070 Tables**
- 5080 Geometrical optics**
- 5090 Complete publications series**
- 5100 Conferences, symposia, summer schools on the entire field of optics, quantum optics, lasers, and quantum electronics**
(Ordered by the last two numbers of the year of the conference).
- 5100 - 5199 for 1900 - 1999**
(Ordered by the last two numbers of the year of the conference).
- 5199 for 2000 - 2099**
- 5199.99 *(Ordered by the last two numbers of the year of the conference).*
- 5200 Diffraction**
- 5250 Absorption**
- 5300 Dispersion, scattering; opalescence.**
See also light scattering by solids, UP 9000).
- 5320 Reflection**
- 5350 Polarised light**
- 5400 Interference, optical filters, interferometry in general, Fourier optics, Fourier spectroscopy, polarisation.**
- 5420 Theory of tomography, image reconstruction from projections, applications of the Radon transformation.**
Specific tomography methods: see UF 6310, UH 6450, UP 9410.
- 5450 Holography**

- 5500 Magneto-optics and electro-optics in general, Kerr effect, Voigt effect, time-dependent effects, rotation of the plane of polarisation, Zeeman effect.**
(See also optical properties of semiconductors, UP 3050).
(See also optical properties, optical interactions, UP 8000 ff).
(See also UM 2300).
- 5600 - 8700 Quantum optics, laser and maser theory, quantum electronics, particle optics, relativity theory.**
- 5600 General overview**
- 5610 Lasers, general**
- 5615 Solid-state lasers, incl. fixed-frequency lasers; solid-state infrared lasers, colour-centre lasers, ruby lasers, YAG lasers, neodymium glass lasers.**
- 5616 Semiconductor lasers, laser diodes.**
For Gunn devices and the Gunn effect, cf. UP 3200.
- 5618 Picosecond lasers, femtosecond lasers, soliton lasers**
- 5620 Liquid-media and dye lasers**
- 5625 Chemical lasers**
- 5628 Excimer lasers and exciplex lasers**
- 5630 Gas lasers, ion lasers**
- 5632 Infrared and far-infrared lasers,**
Infrared spectroscopy: see UH 6000 ff.
- 5635 Free-electron lasers**
- 5638 X-ray lasers**
- 5640 Masers**
- 5650 Excitation of lasers, general**
- 5655 Excitation by electric currents**
- 5660 Excitation by gas discharge**
- 5665 Optical pumping**
- 5670 Other types of excitation**
- 5680 Specific problems in laser physics.**
Coherence, spectral problems, intensity, polarisation, Q-factor modulation, mode coupling, fluorescence processes, decay, phase conjugation.
- 5690 Nonlinear optics, general.**
Stimulated Raman scattering, stimulated Brillouin scattering, frequency multiplication, self-focussing, self-defocussing, optical bistability, multiple-photon absorption and multiple-photon processes in general, nonlinear optical materials, e.g. KDP (potassium dihydrogen phosphate), ADP. (For nonlinear infrared spectroscopy cf. UH 6060).
- 5695 Statistical optics, speckles, laser noise.**
- 5700 Coherent and transient optics**
Optical nutation, superradiance, photon echoes, self-induced transparency.
- 5705 Dynamic lattices, transient lattices**
- 5710 Laser spectroscopy**
Pico- and femtosecond spectroscopy, time-resolved spectroscopy, fluorescence line narrowing, saturation spectroscopy. (Infrared laser spectroscopy cf. UH 6030).
- 5712 Spectral hole-burning**
- 5715 Opto-acoustics and opto-acoustic laser molecular spectroscopy in general, Debye-Sears effect, Raman-Naht effect, opto-acoustic effect.**
(Photoacoustic infrared spectroscopy cf. UH 6030).
- 5720 - 5790 Laser applications**
- 5720 General overview**
- 5721 Lasers in chemistry**
- 5722 Lasers in biology**
- 5723 Lasers in medicine**
- 5725 Lasers in metrology in general**
- 5730 Distance measurements using lasers**
- 5735 Velocity measurements using lasers**
- 5737 Rotation measurements using lasers; laser gyroscopes**
- 5740 Temperature measurements using lasers**
- 5745 Concentration measurements using lasers**
- 5750 Lasers in materials processing and materials testing.**
- 5755 Lasers in communications technology, opto-electronic signal processing.**
(See also UH 7500).

- 5760 **Fibre optics**
(See also UH 6700).
- 5765 **Lasers and integrated optics, signal cables, opto-electronic devices** *(see also UH 6700).*
(See also UP 4970).
- 5770 **Lasers in plasma physics,**
nuclear fusion cf. UR 8000 ff.
- 5775 **Lasers for isotope separation**
Isotope separation in general, cf. UN 5500
- 5790 **Other topics involving lasers, e.g. laser scanning, light modulation, triggering thyristors.**
- 5800 - 5870 Luminescence and phosphorescence**
- 5800 **Luminescence in general**
- 5810 **Photoluminescence**
- 5820 **Radioluminescence**
- 5830 **Electroluminescence**
- 5840 **Mechanical and thermoluminescence, triboluminescence**
- 5850 **Chemoluminescence**
- 5860 **Phosphorescence**
- 5870 **Fluorescence**
- 5900 **Infrared and far-infrared optics in general.**
For optical instruments cf. UH 6700.
- 5910 - 5950 Infrared sources**
- 5910 **General overview**
- 5915 **Thermal infrared radiation sources**
Infrared, far-infrared and submillimetre lasers, cf. UH 5632
- 5950 **Millimetre and submillimetre travelling wave tubes**
Infrared Raman lasers, cf. UH 5632
- 5955 **Infrared detectors in general**
- 5960 **Thermal infrared detectors**
- 5965 **Infrared quantum detectors**
- 5970 **Infrared photography, image converters and infrared cameras in general.**
- 5975 **Infrared fibre optics, infrared and submillimetre astronomy cf. US 1600.**
Atmospheric propagation cf. UT 5800; Infrared laser chemistry cf. VG 8850; Infrared laser isotope separation cf. UH 5775 Plasma diagnosis cf. UR 8200 (see also UH 5760).
- 6000 **Infrared and far-infrared spectroscopy in general, Fourier-transform infrared spectroscopy (FTIR)**
Applications in solid-state physics cf. UP 9100.
- 6010 **Infrared emission spectroscopy**
- 6020 **Opto-acoustic infrared spectroscopy**
(see also UH 5715).
- 6030 **Infrared laser spectroscopy**
(see also UH 5632).
- 6040 **Magneto-infrared spectroscopy**
- 6050 **Heterodyne infrared spectroscopy**
- 6060 **Nonlinear infrared spectroscopy**
(see also nonlinear optics UH 5690).
- 6200 - 6650 Particle optics, ion-beam optics**
- 6200 - 6399 **Electron optics, electron microscopy**
- 6200 **Electron optics and electron microscopy in general**
- 6210 **Electron optics**
- 6220 **Ion (beam) optics**
- 6230 **Electron sources**
- 6240 **Ion sources**
- 6290 **Image detectors and image amplifier technology**
- 6300 **Transmission electron microscopy in general**
- 6301 **Conferences and publications series**
- 6302 **Applications to semiconductor technology**
- 6303 **Applications to materials science and materials testing**
(besides semiconductor technology).
- 6304 **Sample preparation**

- 6305 **Special methods**
High-resolution transmission electron microscopy, ultrahigh voltage transmission electron microscopy including in situ electron microscopy, transmission electron microscopy for analysis.
- 6309 **Image acquisition, image processing, image simulation.**
- 6310 **Secondary-electron scanning electron microscopy including electron-beam microanalysis in general.**
- 6311 **Conferences, publications series**
- 6312 **Applications to semiconductor technology.**
- 6313 **Applications to materials science and materials testing,**
(besides semiconductor technology).
- 6314 **Electron-beam microanalysis**
- 6315 **Specific methods (low-voltage scanning electron microscopy, scanning electron microscopy under ambient conditions, *in situ* scanning electron microscopy.**
- 6320 **Scanning probe microscopy in general,**
including scanning tunnelling (electron) microscopy and atomic force microscopy.
Secondary-electron scanning electron microscopy, cf. UH 6310
- 6330 **Field emission microscopy, field-ion microscopy.**
- 6340 **Secondary-electron microscopy**
- 6350 **Photoelectron emission microscopy (PEEM)**
- 6400 **Radiography, microradiography, X-ray optics in general.**
- 6600 **Cherenkov radiation**
- 6650 **Synchrotron radiation, cyclotron radiation and applications,**
e.g. X-ray lithography.
- 6700 **Instrumental optics and the physics of optical instruments in general, optical microscopy, flash and gas-discharge lamps, optical materials, sol-gel optics.**
Infrared und far-infrared optics, cf. UH 5900; astronomical instruments cf. US 1480; optical components, apparatus and systems cf. ZS 4500.
- 6710 **Optical materials**
- 6900 **Photometry, colourimetry in general.**
- 7000 **Photography in general, theory of photographic apparatus, high-speed photography, electrophotography.**
Infrared photography cf. UH 5965.
- 7200 **Physiological optics.**
Optical information processing in the eye, optical illusions, visual persistence effects.
- 7400 **Colour theory, colourimetry including measurement apparatus.**
- 7500 **Optical signal processing, optical computers, optical data storage.**
- 7600 **Other topics related to optics and quantum optics,**
e.g. remote sensing, LIDAR.
- 8000 - 8700 **Relativity theories**
- 8000 **Introduction**
- 8200 **Theory of special relativity**
- 8300 **Theory of general relativity**
- 8500 **Gravitation theory**
- 8700 **Gravitational waves, gravitons, gravitational lenses, experimental detection of gravitational waves, detectors, optical gyroscopes, interferometers for graviton detection, etc.**

UK Quantum theory, quantum mechanics

- 1000 Quantum theory, general non-relativistic quantum physics
- 1020 Compendia, lectures, reviews
- 1030 Specialised dictionaries and encyclopaedias
- 1050 Collections of exercises for quantum mechanics
- 1070 Tables
- 1090 Complete publications series
- 1100 Conferences, symposia, summer schools on quantum theory, quantum mechanics
- 1199.99 *(Ordered by the last two numbers of the year of the conference).*
 - 1100 - 1199 for 1900 - 1999
(Ordered by the last two numbers of the year of the conference).
 - 1199.00 for 2000 - 2099
 - 1199.99 *(Ordered by the last two numbers of the year of the conference).*
- 1200 Physical and mathematical fundamentals of quantum mechanics
- 1250 Theory of the measurement process
- 1300 Historically important works. Original literature, textbooks on early quantum mechanics.
- 1400 Relativistic quantum theory
- 1400a Philosophical problems of quantum mechanics, cf. UB 7000.
- 2000 - 7800 Specific methods in quantum mechanics
 - 2000 General survey, overview
 - 3000 Applications of group theory in quantum mechanics, operator algebras.
 - 3500 Angular momentum in quantum mechanics
For rotational motion, torque cf. UF 1950.
 - 4000 Approximation methods in quantum mechanics
 - 4500 Integrals, path integrals
 - 7500 Quantum theory of scattering
 - 7500a Non-relativistic quantum theory of many-body systems, cf. UL 1000.
 - 7600 Quantum chaos
 - 7800 Compton effect, photoeffect, pair production, interactions of gamma radiation with matter.
For quantum field theory and renormalisation theory cf. UO 4000; for quantum electrodynamics cf. UO 5600; quantum liquids cf. UR 2000; for quantum optics cf. UH 5600 ff.

UL MANY-BODY THEORY UL

(page heading)

UL Many-body theory

- 1000** Non-relativistic quantum theory of many-body systems
- 1020** Compendia, lectures, reviews
- 1030** Specialised dictionaries and encyclopaedias
- 1050** Collections of exercises for many-body theory
- 1070** Tables
- 1090** Complete publications series
- 1100** Conferences, symposia, summer schools on many-body theory
- **1199.99** *(Ordered by the last two numbers of the year of the conference).*
- 1100 - 1199** for 1900 - 1999
- (Ordered by the last two numbers of the year of the conference).*
- 1199.00** for 2000 - 2099
- **1199.99** *(Ordered by the last two numbers of the year of the conference).*
- 2000** Many-body methods in quantum statistics.
- 3000** Specific applications of many-body methods.
- 3100** Integrable systems
- 4000** Systems of interacting fermions
- (see also [UP 3600](#)).
- 5000** The three-body problem.
- 6000** The many-body problem.

UM ATOMIC UND MOLECULAR PHYSICS UM

(page heading)

UM Atomic and molecular physics

- 1000** General overview
- 1020** Compendia, lectures, reviews
- 1030** Specialised dictionaries and encyclopaedias
- 1050** Collections of exercises for atomic and molecular physics
- 1070** Tables
- 1090** Complete publications series
- 1100** Conferences, symposia, summer schools on atomic and molecular physics.
- **1199.99** *(Ordered by the last two numbers of the year of the conference).*
- 1100 - 1199** for 1900 - 1999
- (Ordered by the last two numbers of the year of the conference).*
- 1199.00** for 2000 - 2099
- **1199.99** *(Ordered by the last two numbers of the year of the conference).*
- 1200** Electronic structure of atoms and molecules,
general theory of electronic transitions, special computational methods and results, statistical model calculations, semi-empirical calculations.
- 1300** Corrections to electronic structure calculations;
Hyperfine interactions, isotope effect, radiation corrections and relativistic effects.
- 1400** Experimentally-derived information on atoms and molecules, instruments and methods.
- 1500** Other topics
- 2000 - 2900** Atomic physics
- 2000** General overview
- 2100** Particular instruments and methods in atomic physics; experiments and instruments.
Mass spectrometers cf. UM 3120; atomic beam and ion-beam optics, cf. UH 6200.
- 2110** Atomic masses, isotopes, mass spectra, isotopic abundances.
- 2130** Electrical and magnetic moments
- 2140** Polarisability and ionisability, cf. UM 2500.
- 2160** Specific atoms and ions, exotic atoms

- 2200 - 2590 **Spectroscopic investigations of atomic structure and atomic spectra.**
- 2200 **General topics**
- 2220 **Radiofrequency spectra**
Radioastronomy and communications technology (see also UX 2500).
(See also [US 1650](#)).
- 2240 **Microwave spectra,**
Communications technology, radio frequencies.
(See also [UX 2500](#)).
- 2260 **Infrared spectra,**
Infrared detectors, infrared spectroscopy and infrared optics, cf. UH 6000.
(See also [UP 3100](#), [UX 2150](#)).
- 2265 **Visible spectral range.**
- 2280 **X-ray spectra, X-rays in general, X-ray imaging**
Fluorescence cf. UH 5870; phosphorescence cf. UH 5860;
quenching processes, cf. UH 5870.
(See also [UQ 5600](#)).
- 2300 **Zeeman and Stark effects**
- 2350 **Intensities and shapes of atomic spectral lines, general.**
Oscillator strengths, transition moments, lifetimes, absolute and relative intensities, line shapes, line widths and line shifts.
- 2400 **Interactions of photons with atoms.**
For level crossings and optical pumping cf. UH 5680.
- 2500 **Ionisability of atoms in general, ionisation potentials.**
For specific ions cf. UM 2160; ion-beam experiments cf. UM 5000.
- 2510 **Autoionisation**
- 2520 **Photoionisation**
- 2530 **Auger effect and ionisation of inner shells, Auger spectroscopy.**
- 2550 **Multiphoton processes**
- 2590 **Other aspects of the ionisation of atoms**
- 2900 **Other topics in atomic physics**
- 3000 - 6000 **Molecular physics**
- 3000 **General overview**
- 3100 **Particular instruments and methods in molecular physics.**
- 3110 **General molecular shapes and symmetries,**
Stereochemistry, intermolecular spacing and angles, bond strengths, dissociation energies, hydrogen bonding, barrier heights, rotational energy
cf. VE 9300.
(See also Crystallography under [UQ 1000](#) ff.)
- 3120 **Molecular masses, mass spectra, mass spectroscopy, model calculations of molecules, LCAO method.**
(See also atomic and molecular physics in general.)
- 3130 **Electric and magnetic moments**
- 3140 **Polarisability and magnetic susceptibility;**
Ionisability, ionisation potentials, electron affinities, molecular core-level binding energies cf. UM 4500.
- 3150 **Correlation times in molecular dynamics**
- 3160 **Types of molecules, specific molecules**
- 3165 **Diatomic molecules**
- 3170 **Triatomic molecules**
- 3175 **Tetratomic molecules**
- 3180 **Pentatomic molecules**
- 3181 **Clusters, general**
- 3185 **Polyatomic molecules**
- 3190 **Radicals**
- 3195 **Ions**
- 3200 - 6000 **Spectroscopic investigations of molecular structure and molecular spectra.**
- 3200 **General overview**
- 3220 **Radiofrequency spectra**
See also radioastronomy, [US 1650](#); communications technology, [ZN 6000 - ZN 6570](#).
- 3240 **Microwave spectra**
See also communications technology, [ZN 6000 - ZN 6570](#).

- 3260 Infrared spectra, infrared spectroscopy and infrared optics cf. UH 6000.**
(See also infrared detectors [UP 3100](#), [ZN 6297](#)).
- 3265 Visible spectra**
- 3270 Ultraviolet spectra**
- 3280 X-ray spectra,**
Fluorescence cf. UH 5870; phosphorescence cf. UH 5860; quenching processes cf. UH 5870.
(See also X-ray spectroscopy, [UQ 5600](#)).
- 3300 Raman spectra, Raman spectroscopy in general**
- 3400 Rayleigh spectra**
- 3500 Nuclear magnetic resonance and relaxation (NMR), NMR spectroscopy in general.**
- 3600 Nuclear quadrupole resonance (NQR)**
- 3700 Electron paramagnetic resonance (EPR) and relaxation.**
- 3800 Double resonances and other multiple resonance methods;**
Mossbauer spectroscopy in general, cf. UP 9500.
- 4000 Photoelectron spectra**
Relaxation of excited molecular fluorescence cf. UH 5870; phosphorescence cf. UH 5860; radiationless transitions (see also UH 5600 ff); quenching processes cf. UH 5870.
(See also [UH 5600](#) ff).
- 4100 Charge-transfer spectra**
- 4200 Intensities and shapes of molecular spectral lines and bands, general.**
- 4250 Oscillator and band strengths, transition moments and Franck-Condon factors.**
- 4300 Lifetimes, absolute and relative line and band intensities.**
- 4350 Line and band widths, shapes and shifts.**
- 4500 Ionisation and autoionisation, predissociation, photodissociation, photoionisation.**
- 5000 Atomic and molecular-beam experiments. Ion-beam experiments.**
- 6000 Other topics in molecular physics, e.g. rearrangements.**

UN Nuclear physics

- 1000 General overview, textbooks
- 1020 Compendia, lectures, reviews
- 1030 Specialised dictionaries and encyclopaedias
- 1050 Collections of exercises for nuclear physics
- 1070 Tables
- 1090 Complete publications series
- 1100 Conferences, symposia, summer schools on nuclear physics
- 1199.99 (*Ordered by the last two numbers of the year of the conference*).
 - 1100 - 1199 for 1900 - 1999
(*Ordered by the last two numbers of the year of the conference*).
 - 1199.00 for 2000 - 2099
 - 1199.99 (*Ordered by the last two numbers of the year of the conference*).
- 1200 - 1800 Nuclear structure
 - 1200 General overview
 - 1210 - 1300 Properties of nuclei, properties of nuclear energy levels
 - 1210 Binding energies and masses
 - 1220 Shape, charge and radius of nuclei
 - 1230 Spin, parity and isospin
 - 1240 Spectroscopic factors
 - 1250 Electromagnetic moments
 - 1260 Level density and structure
 - 1270 Single-particle spectra
 - 1280 Collective excitations.
(See also [UN 2550](#), [UN 3300](#)).
 - 1300 Coulomb effects
(See also [UN 2000](#)).
 - 1350 Other aspects of nuclear structure
 - 1400 Nuclear forces, nucleon-nucleon interactions
(See also [UO 5300](#)).
 - 1410 Meson theory
 - 1420 Phenomenological theories
 - 1450 Systems of a few nucleons
 - 1500 - 1580 Nuclear structure models and calculation methods
 - 1500 General overview
 - 1510 Shell models
 - 1520 Collective models, Droplet model.
 - 1530 Models based on group theory
 - 1540 Cluster models
 - 1550 The Hartree-Fock and PPA approximations
 - 1555 The density-functional method
 - 1560 Pairing correlations, BCS and HFB theory.
(See also [UP 2200](#) for applications to solid-state problems).
 - 1570 Other models
 - 1580 Nuclear matter (theory and calculations)
 - 1600 Hadronic atoms and molecules.
(See also [UM 2160](#), [UM 3160](#)).
 - 1700 Hypernuclei
 - 1800 Superheavy elements,
Nuclear decays cf. UN 2010, 2110, 3500, 3600.
- 1900 Radioactivity, general
- 2000 - 2110 Electromagnetic and weak interactions of nuclei
 - 2000 General overview
 - 2010 Electromagnetic transitions
 - 2020 Lifetimes and transition probabilities
 - 2030 Angular distribution and correlation measurements
 - 2040 Multipole mixing ratios
 - 2050 Multipole matrix elements
 - 2060 Multipole transitions and level energies
 - 2070 Internal conversion

- 2100 **Electron and muon capture**
- 2110 **Weak interactions and leptonic decays, nuclear matrix elements and nuclear structure.**
- 2500 - 2595 **Nuclear reactions and nuclear scattering.**
For nuclear fission, cf. UN 3500; for nuclear decays cf. UN 3600.
- 2500 **General overview**
- 2510 **Models for nuclear reactions and nuclear scattering**
- 2520 **The coupled-channel method; many-body theoretical methods**
- 2530 **The Born approximation and DWBA**
- 2540 **Optical models**
- 2550 **Resonance reactions and scattering; giant resonances**
- 2560 **Isobaric analogue resonances**
- 2570 **Direct reactions and scattering**
- 2580 **Statistical theory and fluctuations**
- 2590 **Polarisation in reactions and scattering**
- 2595 **Other topics in general nuclear reactions and nuclear scattering**
- 3000 - 3010 **Specific nuclear reactions and nuclear scattering**
- 3000 **General overview**
- 3010 **Nuclear reactions and scattering in systems of only a few nucleons.**
- 3020 **Photonuclear reactions and photon scattering (except fission).**
- 3030 **Lepton-induced reactions (except fission and scattering).**
- 3040 **Electron and positron scattering,**
For electron scattering in solids, cf. UP 9320.
- 3050 **Muon scattering**
- 3060 **Neutrino scattering**
- 3100 **Nucleon-induced reactions (except fission and scattering).**
(See also neutron physics, UP 2000).
- 3110 **Elastic proton scattering,**
Elastic neutron scattering cf. UP 2000.
- 3120 **Inelastic proton scattering and (p, n) reactions**
- 3130 **Inelastic neutron scattering**
- 3140 **Nucleon transfer reactions**
- 3150 **Radiative capture**
- 3200 **Reactions with light ions**
- 3210 **Reaction mechanisms, general**
- 3220 **Nucleon transfer reactions**
- 3300 **Heavy-ion-induced reactions (except fission and scattering).**
- 3310 **Reaction mechanisms, general**
- 3320 **Nucleon transfer reactions**
- 3330 **Matter und collective aspects of heavy-ion reactions**
- 3340 **Elastic, inelastic and charge-transfer reactions**
- 3350 **Coulomb excitation**
- 3360 **Deep-inelastic heavy-ion scattering**
- 3370 **Relativistic heavy-ion scattering.**
(See also UO 2700).
- 3400 **Meson- and hyperon-induced reactions and scattering**
- 3410 **Elastic and inelastic pion-nucleus scattering**
- 3420 **Reactions with kaons and hyperons**
- 3430 **Other reactions in the medium energy range**
- 3500 - 3600 **Nuclear fission**
- 3500 **General overview**
- 3510 **Spontaneous nuclear fission**
- 3520 **Neutron-induced nuclear fission**
- 3530 **Nuclear fission induced by charged particles.**
- 3540 **Photon-induced nuclear fission.**
- 3550 **Heavy-ion-induced nuclear fission.**
- 3600 **Nuclear decay**
- 3700 **Other individual nuclear reactions.**

4000	Properties of specific nuclei, <i>Ordered according to the Gmelin reference numbers.</i>
4000.0	<i>Noble gases</i>
4001	He Helium
4002	Ne Neon
4003	Ar Argon
4004	Kr Krypton
4005	Xe Xenon
4006	Ra Radon
4007	H Hydrogen
4008	O Oxygen
4009	N Nitrogen
4009.0	<i>Halogens</i>
4010	F Fluorine
4011	Cl Chlorine
4012	Br Bromine
4013	I Iodine
4014	At Astatine
4015	S Sulphur
4016	Se Selenium
4017	Te Tellurium
4018	Po Polonium
4019	B Boron
4020	C Carbon
4021	Si Silicon
4022	P Phosphorus
4023	As Arsenic
4024	Sb Antimony
4025	Bi Bismuth
4026.0	<i>Alkali elements</i>
4026	Li Lithium
4027	Na Sodium
4028	K Potassium
4029	NH ₄ Ammonium
4030	Rb Rubidium
4031	Cs Caesium
4032	Fr Francium
4032.0	<i>Alkaline-earth elements</i>
4033	Be Beryllium
4034	Mg Magnesium
4035	Ca Calcium
4036	Sr Strontium
4037	Ba Barium
4038	Ra Radium
4039	Zn Zinc
4040	Cd Cadmium
4041	Hg Mercury
4042	Al Aluminium
4043	Ga Gallium
4044	In Indium
4045	Tl Thallium
4045.0	<i>Rare Earths</i>
4046	Sc Scandium
4047	Y Yttrium
4048	<i>La Lanthanum and lanthanide elements</i>
4049	Ce Cerium
4050	Pr Praseodymium
4051	Nd Neodymium
4052	Pm Promethium
4053	Sm Samarium
4054	Eu Europium
4055	Gd Gadolinium
4056	Tb Terbium

4057	Dy Dysprosium
4058	Ho Holmium
4059	Er Erbium
4060	Tm Thulium
4061	Yb Ytterbium
4062	Lu Lutetium
4062.0	<i>Transition and actinide elements</i>
4063	Ac Actinium
4064	Ti Titanium
4065	Zr Zirconium
4066	Hf Hafnium
4067	Th Thorium
4068	Ge Germanium
4069	Sn Tin
4070	Pb Lead
4071	V Vanadium
4072	Nb Niobium
4073	Ta Tantalum
4074	Pa Protactinium
4075	Cr Chromium
4076	Mo Molybdenum
4077	W Tungsten
4078	U Uranium
4079	Mn Manganese
4080	Ni Nickel
4081	Co Cobalt
4082	Fe Iron
4083	Cu Copper
4084	Ag Silver
4085	Au Gold
4085.0	<i>Platinum metals</i>
4086	Ru Ruthenium
4087	Rh Rhodium
4088	Pd Palladium
4089	Os Osmium
4090	Ir Iridium
4091	Pt Platinum
4092	Tc Technetium
4093	Re Rhenium
4093.0	<i>Transuranic elements</i>
4094	Np Neptunium
4095	Pu Plutonium
4096	Am Americium
4097	Cm Curium
4098	Bk Berkelium
4099	Cf Californium
4100	Es Einsteinium
4101	Fm Fermium
4102	Mv Mendelevium
4103	No Nobelium
4104	Lr Lawrencium
5000 – 5700	Nuclear technology and nuclear energy <i>Neutron physics cf. UP 2000</i>
5000	General overview
5100	Reactor technology, general
5110 - 5130	Theory and construction of nuclear reactors
5110	Materials for nuclear reactors
5120	Cooling and heat recovery
5130	Experiments with nuclear reactors
5200	Operation of nuclear reactors, general
5210	Reactor control and regulation
5220	Reactor safety

- 5230 **Manufacture and reprocessing of fuel elements**
- 5240 **Waste disposal, radioactive waste**
- 5300 **Specific types of reactors, reactor applications**
- 5310 **Research reactors**
- 5320 **Fast reactors and breeder reactors**
- 5330 **Power reactors**
- 5340 **Propulsion reactors**
- 5350 **Backup generators and electrical drives**
- 5360 **Nuclear power plants**
- 5370 **Desalination plants;**
Coal gasification plants cf. UX 2000; fusion reactors cf. UR 9000.
- 5400 **Other topics in reactor technology**
- 5500 **Isotope separation and enrichment in general**
- 5510 **Thermal diffusion separation tubes**
- 5520 **Gas-dynamic processes**
- 5530 **Ultracentrifuges**
- 5530a **Laser processes cf. UH 5775**
- 5600 **Nuclear explosions, nuclear explosives in general**
- 5650 **Radiation technology incl. shielding**
- 5700 **Other topics in nuclear technology**
- 6000 **Experimental methods and equipment for nuclear physics, general.**
- 6100 - 6250 **Particle accelerators**
- 6100 **General overview**
- 6110 **Pre-accelerators (beam injection)**
- 6120 **Electrostatic accelerators**
- 6130 **Linear accelerators**
- 6150 **Oscillating-field accelerators and storage rings in general**
- 6160 **Betatrons**
- 6170 **Cyclotrons**
- 6180 **Synchrocyclotrons**
- 6190 **Synchrotrons**
- 6200 **Other oscillating-field accelerators**
- 6250 **Storage rings**
- 6300 **Plasma accelerators**
- 6400 **Particle sources and targets: Construction and technology.**
(See also molecular-beam and ion-beam experiments [UM 5000](#)).
- 6410 **Electron sources**
(See also electron optics [UH 6300](#)).
- 6420 **Ion sources for positive, negative and polarised ions.**
- 6430 **Neutron sources**
- 6440 **Radioactive sources**
- 6500 **Beam optics, beam focussing, pulsed beams**
- 6600 **Nuclear targets in general; polarised targets**
- 6700 **Spectroscopy of particle beams in general.**
(See also molecular-beam and ion-beam experiments [UM 5000](#)).
- 6710 **Spectroscopy of heavy charged particles**
- 6720 **Neutron spectroscopy, mass spectroscopy, cf. [UM 3120](#).**
(See also neutron physics [UP 2000](#)).
- 7000 – 7900 **Detection and measurement of radioactivity and particle emissions.**
- 7000 **General overview**
- 7100 **Dosimetry in general (including film dosimetry)**
- 7200 **Radiation detectors, general**
- 7210 **Ionisation chambers**
- 7220 **Cloud chambers**
- 7230 **Bubble chambers**
- 7240 **Spark chambers and other track-imaging detectors**
- 7250 **Cherenkov detectors**
- 7260 **Scintillation detectors**
- 7260a **Semiconductor detectors cf. [UP 3100](#)**
- 7270 **Nuclear emulsions**
- 7280 **Geiger counters**
- 7290 **Position-sensitive detectors.**

7300 **Detection circuits and nuclear electronics.**
7310 **Angular correlation measurements.**
7320 **Coincidence measurements.**
7330 **Energy loss and energy-range relations.**
7340 **Integral methods of radiation detection.**
 (See also dosimetry [UN 7100](#)).
7350 **Polarisation analysis.**
7900 **Radiological protection.**

UO Elementary-particle physics, physics of fields and high-energy physics

- 1000 Elementary particles and fields**
- 1199.99
- 1000 General overview
 - 1020 Compendia, lectures, reviews
 - 1030 Specialised dictionaries and encyclopaedias
 - 1050 Collections of exercises for elementary-particle physics
 - 1070 Tables
 - 1090 Complete publications series
 - 1100 Conferences, symposia, summer schools on the entire field
 - 1199.99 (*Ordered by the last two numbers of the year of the conference*).
 - 1100 – 1199 for 1900 - 1999
(*Ordered by the last two numbers of the year of the conference*).
 - 1199.00 for 2000 - 2099
 - 1199.99 (*Ordered by the last two numbers of the year of the conference*).
- 1500 – 1590 Symmetry properties and conservation laws in the realm of elementary particles and fields.**
- 1500 General overview
(See also group theory [UK 3000](#) and [SK 260](#)).
 - 1510 Lorentz and Poincaré invariance
 - 1520 Parity, charge conjugation, time reversal and other discrete symmetries.
 - 1530 SU(2) and SU(3) symmetries
 - 1540 SU(4) symmetry and other inner and higher symmetries.
 - 1550 Nonlinear and dynamic symmetries, spectrum-generating symmetries.
 - 1560 Supersymmetry
 - 1570 Spontaneous symmetry breaking
 - 1580 Chiral symmetry
 - 1590 Other topics in symmetries and conservation laws.
- 2000 Scattering theory and S matrix theory in general; the scattering matrix and perturbation theory.**
- 2500 Dispersion relations and analytic properties of the S matrix.**
- 2600 - 2650 Dispersion relations and sum rules**
- 2600 General overview
 - 2610 N/D method
 - 2620 Bootstrap models
 - 2630 Crossing symmetries
 - 2640 Sum rules
 - 2650 Multivariable dispersion relations, Mandelstam representation.
- 2700 – 2760 Relativistic scattering theory**
- 2700 General overview
 - 2710 Kinematic properties, helicity and invariant amplitudes, kinematic singularities.
 - 2720 Partial-wave analysis
 - 2730 Approximations, eikonal approximation, variational principles.
 - 2740 Multichannel scattering
 - 2750 Many-body problems, Fadeev equation.
 - 2760 Multiple scattering
- 2800 – 2820 Spin and isospin**
- 2800 General overview
 - 2810 Complex angular momentum.
 - 2820 Regge formalism, Regge poles.
- 3000 - 3090 Currents and their properties, current algebras.**
- 3000 General overview
 - 3010 Lagrange representation of current algebras.
 - 3020 Partially-conserved axial vector current (PCAC)
 - 3090 Other topics relating to currents
- 4000 - 4100 Field theory and quantum field theory.**
- 4000 General overview
 - 4010 Axiomatic representation

- 4020 Lagrange and Hamilton representations, renormalisation.
- 4030 Asymptotic problems and properties.
- 4040 Nonlinear or nonlocal theories and models.
- 4050 Schwinger's source theory
- 4060 Gauge field theories
- 4065 Strings in general, superstring theories, string field theories.
- 4070 Relativistic wave equations
- 4080 Bound and unstable states, Bethe-Salpeter equation.
- 4090 Other topics
- 4100 Fractional statistics and anyons.
- 5000 - 5590 Theory and phenomenology of the interactions of elementary particles.
 - 5000 General overview
 - 5100 - 5190 Phenomenology of the weak interaction
 - 5100 General overview
 - 5110 Models of the weak interaction
 - 5120 Neutral currents
 - 5130 Intermediate vector bosons
 - 5140 Neutrino interactions
 - 5150 Leptonic and semileptonic decays of mesons in general.
 - 5160 Lepton decays
 - 5170 K decays, CP parity (charge conjugation and parity violation).
 - 5175 Decay of mesons with strangeness (strange meson decays).
 - 5180 Decay of mesons with charm (charmed meson decays).
 - 5185 Decay of B mesons (bottom meson decays).
 - 5190 Baryon decays, leptonic and semileptonic decays.
 - 5200 General phenomenology of the electromagnetic interaction, electromagnetic properties of the hadrons.
 - 5210 Electromagnetic mass differences
 - 5220 Electromagnetic form factors; electric and magnetic moments.
 - 5230 Electromagnetic decays
 - 5240 Electromagnetic corrections to processes with strong and weak interactions.
 - 5300 - 5490 Phenomenology of the strong interaction
 - (See also [UN 1400](#)).
 - 5300 General overview
 - 5310 General models of the strong interaction
 - 5312 Nucleon-antinucleon interactions
 - 5315 Pion-nucleon interactions
 - 5320 Models of hadronic structure
 - 5330 Hadron properties
 - 5340 Statistical models
 - 5350 Bootstrap models
 - 5360 Dual models and duality
 - 5370 Hadron classification schemes
 - 5380 The plane of complex angular momentum
 - 5390 Absorption models, optical models and Eikonal models
 - 5400 Potential models
 - 5410 Peripheral models (single and multiparticle exchange)
 - 5420 Multiperipheral and multi-Regge models, Regge poles.
 - 5430 Vector meson dominance
 - 5490 Other phenomena of the strong interaction
- 5500 - 5590 Theories of the weak interaction
 - 5500 General overview
 - 5510 Gauge theories of the electroweak interactions.
 - 5520 Weinberg-Salam theory
 - 5590 Other theories
- 5600 - 5690 Quantum electrodynamics
 - 5600 General overview
 - 5610 Specialised calculations and limiting cases of quantum electrodynamics.
 - 5620 Experimental tests of quantum electrodynamics.
 - 5690 Other topics in quantum electrodynamics.
- 5700 Quantum chromodynamics in general. Theory of the strong interaction.
 - 5710 Symmetries of the quarks, quark phenomenology.
 - 5720 Quark-gluon dynamics, quark-gluon plasma.

- 5730 Field-theoretical basis of quantum chromodynamics, Yang-Mills theories.
- 5740 Applications of quantum chromodynamics; structure of the hadrons; strong interactions.
- 5790 Other topics in quantum chromodynamics
- 5800 Unified gauge field theories. Unified field theories.
- 5900 Gravitational interaction
(See also theory of general relativity, [UH 8000](#)).
- 6000 Properties of individual elementary particles and resonances in general.
 - 6100 - 6190 Baryons and baryon resonances including antiparticles.
 - 6100 General overview
 - 6110 Neutrons
 - 6120 Protons, antiprotons
 - 6130 Baryon resonances with S=0
 - 6140 Hyperons and hyperon resonances
 - 6190 Others
 - 6200 - 6290 Mesons and meson resonances
 - 6200 General overview
 - 6210 K mesons
 - 6220 A and B mesons
 - 6230 Mesons and charm
 - 6290 Other mesons
 - 6300 - 6390 Leptons
 - 6300 General overview
 - 6310 Electrons
 - 6320 Positrons
 - 6330 Muons, muon spin resonance
 - 6340 Neutrinos
 - 6390 Other leptons
 - 6400 - 6490 Other particles, hypothetical particles;
quarks cf. UO 5200.
 - 6400 General overview
 - 6420 Bosons
 - 6430 Magnetic monopoles
 - 6440 Photons
 - 6450 Tachyons
 - 6450a Excitons, plasmons, polarons cf. UP 3700.
 - 6490 Other topics.
 - 6490a Particle accelerators: cf. UN 6100.
 - 9500 Cosmic rays.

UP

- 1000 - 5600 Solid-state physics**
- 1000 Textbooks**
- 1020 Compendia, lectures, reviews**
- 1030 Specialised dictionaries and encyclopaedias**
- 1050 Collections of exercises for solid-state physics**
- 1070 Tables**
- 1090 Complete publications series**
- 1100 Conferences, symposia, summer schools on solid-state physics**
 - 1199.99 (*Ordered by the last two numbers of the year of the conference*).
 1100 - 1199 for 1900 - 1999
 (*Ordered by the last two numbers of the year of the conference*).
 1199.00 for 2000 - 2099
 - 1199.99 (*Ordered by the last two numbers of the year of the conference*).
- 1200 Group theory in solid-state physics (finite groups only).**
 See also crystallographic group theory, [UQ 1350](#); applications in quantum mechanics, [UK 3000](#); abstract classical group theory, [SK 260](#); topological groups cf. [UK 3000](#) and [SK 340](#).
- 1300 Other mathematical methods relating to solid-state physics, e.g. gauge field theories, many-body theory.**
- 1400 Tunnel effect and tunnel spectroscopy in general.**
Electron tunnelling spectroscopy cf. UH 6320.
- 1410 Josephson effect**
- 1420 Proximity effect**
- 1500 Lattice dynamics, phonons in general, crystal statistics.**
- 1500a Phase transitions cf. UG 3800; phase diagrams cf. UQ 3300.**
- 1800 Ultrasound, general**
- 2000 Neutron physics, neutron spectroscopy.**
Spectroscopic investigations of atomic structure: cf. UM 1200.
- 2100 Theory of lattice defects (dislocations, point defects), relating to crystal growth: cf. UQ 2400 - 2440; relating to plasticity, elasticity of crystals, cf. UQ 4100.**
- 2200 Superconductivity in general, two-fluid model, particular high-temperature superconductors, BCS theory.**
(See also liquid and solid hydrogen, UR 2900) (see also He-3 and He-4, UR 3000).
(See also quantum liquids in general, UR 2000).
- 2300 Low-temperature physics, low-temperature technology, cf. UX 3300.**
(See also UR 2000 ff).
- 2500 High-pressure physics in general and the behaviour of solids and liquids at high pressures and under extreme conditions.**
- 2800 - 3500 Semiconductor physics, semiconductor theory**
- 2800 General overview**
- 2850 Exercises for semiconductor physics**
- 2900 Tables for semiconductor physics**
- 3000 Ion implantation in semiconductors**
- 3050 Optical properties of semiconductors.**
Semiconductor lasers cf. UH 5616.
(See also quantum optics and quantum electronics, UH 5600 ff).
- 3100 Semiconductor materials.**
 See also [ZN 3460](#).
- 3110 Elemental semiconductors**
- 3120 Compound semiconductors**
- 3130 Organic semiconductors**
- 3140 Particular semiconductors**
- 3150 Structured semiconductors, multilayers, superlattices, heterostructures and quantum troughs, quantum wells.**
(See also thin films, UP 7500 ff).
- 3160 Amorphous semiconductors and polycrystalline semiconductors.**
- 3200 Transport processes in semiconductors; Gunn devices, Gunn effect.**
- 3250 Semiconductor doping, radiation effects in semiconductors.**

- 3300 **Physics of ionic crystals.**
Colour centres cf. UP 8300; Colour-centre lasers cf. UH 5618.
- 3400 **Physics of the transition metals.**
- 3500 **Crystal field theory, ligand field theory.**
Applications in mineralogy cf. UQ 4200.
- 3600 - 4400 **Electronic states in solids**
- 3600 **General topics including Fermion systems, heavy Fermion systems, strongly correlated electron systems, Anderson model.**
- 3650 **Electronic solid-state plasma**
- 3700 **Quasiparticles in solids and their interactions in general.**
- 3710 **Excitons and related phenomena including electron-hole pairs.**
- 3720 **Polaritons and photon-photon interactions; photon-magnon interactions.**
- 3725 **Polarons and the electron-phonon interaction.**
- 3735 **Magnons**
- 3740 **Plasmons**
- 3745 **Other quasiparticles;**
Solitons: see under the corresponding wave phenomena.
- 3750 **Jahn-Teller effect**
- 3760 **Valence fluctuations**
- 4000 **Band-structure calculations, LCAO method, Kondo lattice**
- 4100 **Determination of the Fermi surface incl. De-Haas-van-Alphen effect, cyclotron resonance, Shubnikov-de-Haas effect.**
- 4200 **Electronic states in amorphous materials.**
Amorphous semiconductors cf. UP 3160.
- 4400 **Positron annihilation in solids;**
Surface electronic states cf. UP 7500.
- 4500 - 5500 **Electrical properties, solids in external fields.**
- 4500 **General overview**
- 4600 **Dielectric properties, dielectrics, insulators.**
- 4610 **Metal-insulator transitions.**
(See also UP 7500 ff).
- 4700 **Ferroelectricity, ferroelectrics, electrets.**
- 4900 **Piezoelectric materials**
- 5000 **Electrical conductivity in solid-state physics.**
Thin films cf. UP 7750; electrical conductivity in general cf. UH 3500; transport theory in general cf. UG 2300.
- 5010 **Band conductivity e.g. in crystals, not amorphous, not localised.**
- 5020 **Localised states, including amorphous conductors.**
Amorphous semiconductors cf. UP 3160; amorphous thin layers and films cf. UP 7750; polymers cf. UV 5200.
- 5050 **Low-dimensional conductors, 1- and 2-dimensional conductors, fibre structures, thin wires.**
- 5060 **Hopping conductivity**
- 5070 **Ion transport and diffusion in solids, solid electrolytes, super-ionic solids.**
- 5070a **Noise and fluctuations cf. UG 3700.**
- 5100 **Galvanomagnetic effects, thermomagnetic effects, thermoelectric effects.**
- 5110 **Hall effect and quantum Hall effect, photo Hall effect.**
- 5200 **Heat conductivity**
- 5300 **Photoconductivity, photoresistance**
- 5400 **Thermoelectricity**
- 5450 **Photoemission;**
Photoeffect cf. UP 8200.
- 5500 **Electron emission, field emission;**
Field emission spectroscopy cf. UH 6330.
- 6000 - 6900 **Magnetism**
- 6000 **General overview**
- 6050 **Collections of exercises**
- 6070 **Tables, tabulations**
- 6100 **Diamagnetism**
- 6200 **Paramagnetism**
- 6300 **Ferro-, ferri- and antiferromagnetism**

- 6400 **Magnetism of thin films.**
(See also thin films, [UP 7500](#) ff).
- 6500 **Magnetism and chemical bonding**
- 6700 **Spin waves, spin fluctuations, spin temperatures, spin-glass theory, Heisenberg spin-glass model, spin-lattice relaxation.**
General theories of systems with spins and pseudospins cf. UG 2000.
- 6800 **Magnetic materials and their technology, magnetic bubbles, spin glasses.**
- 6900 **High magnetic fields and their technology; high-temperature superconductors cf. UP 2200.**
- 7500 - 7990 **Physics of thin films and interfaces**
- 7500 **General overview**
- 7550 **Preparation of thin films incl. epitaxial films, thin-film technology.**
Epitaxy in general, cf. UQ 2200.
- 7560 **Metallic thin films, metal-semiconductor contacts.**
- 7570 **Semiconductor thin films**
- 7580 **Amorphous films, incl. amorphous semiconductor films.**
Polymer films and interfaces cf. UV 7000.
- 7590 **Multilayer structures.**
Two-dimensional lattices, superlattices and heterostructures cf. UP 3150.
Magnetism of thin films cf. UP 6400.
- 7610 **Solid-solid interfaces**
- 7620 **Solid-liquid interfaces**
- 7630 **Solid-gas interfaces**
- 7640 **Liquid-liquid interfaces**
- 7700 **Specific properties of thin films and interfaces.**
- 7750 **Conductivity of thin films**
- 7800 **Optical properties of thin films.**
Ellipsometry cf. UP 8300; optical filters cf. UH 5400.
- 7900 **Other topics on the physics of thin films and interfaces, e.g. adhesion, diffusion.**
- 8000 - 9500 **Optical properties, optical interactions**
- 8000 **General overview**
Optical properties of thin layers and films cf. UP 7800; luminescence, fluorescence, phosphorescence cf. UH 5860 ff; in polymers, cf. UY 5500.
- 8200 **Photoeffect, photoemission cf. UP 5450.**
- 8300 **Optical properties of impure crystals; colour centres including absorption, reflection, ellipsometry.**
- 9000 **Solid-state spectroscopy, light scattering in solids.**
Dispersion in general cf. UH 5300.
- 9100 **Applications of infrared spectroscopy in solid-state physics; general treatment cf. UH 6000 ff.**
- 9150 **UV and VUV spectroscopy in solid-state physics.**
- 9200 **Raman spectroscopy in solid-state physics;**
X-ray spectroscopy cf. UQ 5600,
- 9250 **Auger spectroscopy**
- 9270 **Brillouin spectroscopy; see also nonlinear optics, UH 5690.**
- 9300 **Scattering processes of electrons, ions and molecules with solids, secondary ion emission spectroscopy.**
- 9310 **EXAFS (extended X-ray absorption fine structure).**
- 9320 **LEED (low energy electron diffraction) including electron scattering and diffraction.**
Electron scattering in nuclear physics cf. UN 3040.
- 9330 **XPS (X-ray photoelectron spectroscopy) including ESCA (electron spectroscopy for chemical analysis), UPS (ultraviolet photoelectron spectroscopy).**
- 9340 **ESR (electron spin resonance spectroscopy), ESEEM (electron spin-echo envelope modulation spectroscopy).**
- 9350 **Ion implantation in general, etching, sputtering.**
(See also [UP 3000](#)).
- 9400 **NMR (nuclear magnetic resonance spectroscopy).**
- 9410 **NMR tomography**
- 9500 **Mossbauer effect and Mossbauer spectroscopy;**
(In nuclear physics, cf. [UN 2200](#)).

UQ

- 1000 – 5600 Crystallography**
- 1000** Textbooks on crystallography and mineralogy.
- 1020** Compendia, lectures, reviews
- 1030** Specialised dictionaries and encyclopaedias
- 1050** Collections of exercises for mineralogy and crystallography.
- 1070** Tables
- 1090** Complete publications series
- 1100** Conferences, symposia, summer schools on crystallography, mineralogy.
- 1199.99** (*Ordered by the last two numbers of the year of the conference*).
- 1100 – 1199** for 1900 – 1999
(*Ordered by the last two numbers of the year of the conference*).
- 1199.00** for 2000 - 2099
- 1199.99** (*Ordered by the last two numbers of the year of the conference*).
- 1200** Geometric crystallography
- 1220** Drawing crystals
- 1225** Atlases of crystal forms
- 1250** Stereographic projection
- 1300** Crystal symmetry
- 1350** Crystallographic group theory
- 1800** *Indiv. signum*: American Crystallographic Association Transactions
- 2000 - 2800** Crystal growth, crystallisation
- 2000** General overview
- 2100** Crystal growth from the melt; melting and solidification.
- 2120** Crystal growth from flux melts; molten salts.
- 2140** Crystal growth from solution; solution processes.
- 2150** Hydrothermal synthesis
- 2160** Crystal growth from the gas phase; evaporation processes.
- 2180** Whiskers
- 2200** Epitaxy
- 2220** Electrocrystallisation
- 2220a** Polymer crystallisation cf. UV 3600.
- 2300** Physical-chemical crystallography, reactivity of solids.
- 2400** Imperfections, defects, growth defects.
- 2410** Radiation damage and specific materials.
- 2420** Twinning
- 2440** Dislocations
- 2460** Non-stoichiometry
- 2500** Order-disorder
- 2600** Diffusion processes in crystals and metals (including adsorption).
- 2700** Purification methods and highly pure substances.
- 2800** Crystal surface treatment; polishing, etching.
- 3000 - 3600** Chemical crystallography, crystal chemistry, structural chemistry.
- 3000** General overview
- 3100** Chemical bonding in crystals
- 3200** Crystal chemistry of specific materials groups
- 3300** Phase diagrams
- 3400** Crystal structure and phase transformations, polymorphism, polytypism.
- 3500** Differential thermal analysis
- 3600** Specific physical-chemical methods.
- 4000 - 4640** Crystal physics
- 4000** General overview
- 4100** Plasticity and elasticity of crystals
- 4200** Mineralogical applications of crystal field theory;
Crystal field theory in general, cf. UP 3500.
- 4300** Thermal properties, thermal expansion.
- 4500** Crystal optics, polarisation and light microscopy of crystals.
- 4600** Crystal optics tables
- 4620** Handbooks of microscopy for technological applications.
- 4640** Atlases of optical phenomena.
- 5000 - 5600** Crystal structure determination

5000	General overview
5050	Tables of crystal structures (excluding metals).
5100	Textbooks on crystal structure determination and X-radiography.
5200	Crystal structure determination in particular materials groups.
5300	Mathematical methods in crystal structure determination.
5400	Powder methods
5500	Electron-diffraction methods
5550	Neutron-diffraction methods
5600	X-ray spectroscopy, X-ray microscopy, X-ray fluorescence spectroscopy and analysis.

UQ MINERALOGY UQ

(page heading)

UQ

6000 - 6800	Mineralogy
6000 - 6040	General overview
6010	Reference works, bibliographies and dictionaries.
6020	Relationship of mineralogy to other fields.
6030	History of mineralogy
6040	Conferences, proceedings, publications series.
6100 - 6110	Specific mineralogy, systematics
6100	Specific mineralogy, general systematics
6101	Elements, alloys (incl. carbon group, graphite, diamond).
6102	Sulphides, sulpho salts
6103	Halides
6104	Oxides
6105	Carbonates, nitrates
6106	Borates
6107	Sulphates, selenates, tellurates, chromates, molybdates, tungstates
6108	Phosphates, arsenates, vanadates.
6109	Silicates, germanates (including quartz).
6110	Organic minerals
6120	Illustrated books on minerals
6140 - 6190	Gemology
6150	Identification of gems
6160	Properties of gems
6170	Applied gemology
6180	Collections of gems
6190	Systematics of gems
6200 - 6240	Investigation, identification and measurement of minerals.
6210	Field guides, illustrations, tables
6220	Mineral optics
6230	X-ray radiography
6240	Electron microscopy
6400	Geochemistry
6800	Technical mineralogy

UQ

- 7000 - 7740 Metallurgy, metals and alloys.**
(UQ 7000 - UQ 8800 are reserved for use by the university libraries in Bayreuth and Regensburg).
- 7000** General overview
 - 7020** Theoretical metallurgy
 - 7040** Metallurgy –practical laboratories, teaching laboratories.
 - 7050** Atlas of interference-layer metallography
 - 7100** Metallurgy, general textbooks
 - 7200** Tables of crystal structures, lattice constants, phase diagrams of metals.
 - 7250** Intermetallic compounds (excluding alloys)
 - 7300** Physical investigations of metals
 - 7320** Chemical analysis of metals
 - 7340** Textures of metals
 - 7360** Lattice defects in metals
 - 7380** Radiation damage in metals
 - 7400** Mechanical properties of metals; metal fatigue, breakage
 - 7500** Corrosion
 - 7520** Powder metallurgy
 - 7600** Particular metals and alloys; superplastic alloys (Gmelin reference numbers).
 - 7720** Liquid metals
 - 7740** Metals in the gas phase, metal vapours.

UQ

- 8000 - 8800 Materials science**
(UQ 7000 - UQ 8800 are reserved for use by the university libraries in Bayreuth and Regensburg).
- 8000** General textbooks
 - 8010** Materials testing
(see also [ZM 3500](#))
 - 8025** Mechanical properties of condensed matter.
 - 8050** Individual reports on materials science.
 - 8100** Series
 - 8200** Particular inorganic materials.
 - 8220** Diamond
 - 8225** Graphite
 - 8230** Fullerenes and condensed fullerenes in general.
 - 8240** Water and ice
Semiconductor materials: see also UP 3100.
 - 8300** Particular organic materials
 - 8320** Fibres
(see also [UV 9050](#)).
 - 8400** High-temperature materials
(see also [UV 9400](#)).
 - 8420** Composites
(see also [UV 9250](#)).
 - 8440** Hard materials and high-strength materials in general.
 - 8500** Ceramic materials (oxides, carbides).
 - 8520** Phase diagrams of ceramics
 - 8600** Glasses and metallic glasses, rapidly quenched materials.
 - 8700** Liquid crystals
 - 8750** Quasicrystals
 - 8800** Amorphous materials, non-crystalline solids.

UR Structure of liquids, physics of gases, plasma physics

- 1000 Classical liquids
- 1020 Compendia, lectures, reviews
- 1030 Specialised dictionaries and encyclopaedias
- 1050 Collections of exercises for the entire field
- 1070 Tables, tabulations
- 1090 Complete publications series
- 1100ff Conventions, symposia, summer schools on the entire field.
- 1500 Statistical theory of liquids
- 1600 Transport processes in liquids
- 1800 Light scattering in liquids
- 1800a Relaxation phenomena in liquids: cf. UH 5600.
- 2000 Quantum fluids
- 2900 Liquid and solid hydrogen
- 3000 Helium, superfluids, fermi liquids
- 4400 Interface phenomena in fluids
- 4500 Liquid-gas interface phenomena
- 4600 Electrically-conducting liquids
- 4700 Dielectric liquids
- 4800 Magnetic liquids (ferrofluids)
- 5000 - 7000 Physics of gases, plasma physics.
 - 5000 Physics of gases in general
 - 5020 Compendia, lectures, reviews
 - 5030 Specialised dictionaries and encyclopaedias
 - 5090 Complete publications series
 - 5100 Conferences, symposia, summer schools on the entire field.
 - 5100a Tabulations on the physics of gases: cf. UG 1070.
 - 5100b Thermodynamic functions for various gases cf. UG 1070.
 - 5100c Kinetic theory of gases, statistical mechanics of gases, gas dynamics:
cf. UG 1300.
 - 5550 Impulse waves in gases, shock waves.
 - 5600 Dynamics of dilute gases
 - 5700 Transport processes in gases, viscosity and diffusion.
 - 5800 Combustion processes
 - 6000 Electrical and ionisation phenomena in gases.
 - 7000 Magnetohydrodynamics, MHD generators.
- 8000 - 9000 Plasma physics
 - 8000 General overview
 - 8200 Plasma diagnostics
 - 8300 Plasma waves and propagation of plasma waves.
 - 8500 Nonlinear plasma physics
 - 9000 Controlled nuclear fusion

US Astronomy, Astrophysics

For works on the history of astronomy cf. UB 2475 - UB 2484 (history of individual sub-fields and problems in physics). Popular presentations can be found under UB 5260. For works on the philosophy of science and astronomy cf. CC 3500 and UB 6000ff.

- 1000** General overview
- 1020** Compendia, lectures, reviews
- 1030** specialised dictionaries and encyclopaedias
- 1040** Astronomical data and constants
- 1050** Collections of exercises for astronomy and astrophysics.
- 1090** Complete publications series.
- 1092** *Indiv. signum:* International Astronomical Union: Transactions
- 1094** *Indiv. signum:* Reviews in Modern Astronomy
- 1096** *Indiv. signum:* Vistas in astronomy
- 1100** Conferences, symposia, summer schools on astronomy, astrophysics.
- **1199.99** (*Ordered by the last two numbers of the year of the conference.*)
 - 1100 - 1199** for 1900 - 1999
(*Ordered by the last two numbers of the year of the conference.*)
 - 1199.00** for 2000 - 2099
 - **1199.99** (*Ordered by the last two numbers of the year of the conference.*)
- 1200** Celestial mechanics in general.
- 1250** Orbit determination of natural and artificial celestial bodies.
- 1400 - 1900** Practical astronomy, observational astronomy.
 - 1400** General overview
 - 1420** Illustrated books
 - 1450** Observatories, construction and operation
 - 1480** Astronomical instruments
 - 1500** Optical astronomy
 - 1550** Other optical methods (e.g. celestial photography), image processing, data analysis.
 - 1640** Radio astronomy
 - 1650** UV and X-ray astronomy
 - 1660** Infrared astronomy
 - 1670** Gamma-ray astronomy, very-high-energy astronomy.
 - 1700** Observational guides for astronomical observers.
 - 1770 - 1860** Spherical astronomy
 - 1770** General overview
 - 1800** Astronomical time scales and time measurements.
 - 1810** Astronomical position determinations, astrometry.
 - 1850** Star maps, celestial atlases and catalogues; apparent positions.
 - 1860** Astronomical yearbooks (ephemerides), calendars, almanacs.
- 1900** Astronomy as an ancillary science for geodetics, nautical astronomy etc.
- 2000 - 8950** Astrophysics, cosmology
 - 2000** General astrophysics and cosmology
 - 2200** Specific hypotheses and models, e.g. the theory of black holes.
 - 2300** Gravitation and relativistic cosmology.
See also UH 8000 - UH 8700.
 - 2400** Quantum gravitation (quantum cosmology), newer theories of gravitation.
See also UO 4000 - UO 4100.
 - 2500** The early universe
- 3100 - 3480** Galaxies; structure of the universe.
 - 3100** General: dynamics, structure and evolution of star systems.
 - 3200** The Milky Way ("the galaxy").
 - 3300** Interstellar space, interstellar matter.
 - 3350** The galactic centre
 - 3400** Other galactic systems, external galaxies;
includes among others M31 (Andromeda galaxy), M33 (Triangulum nebula), LMC/SMC (large/small Magellanic clouds).
 - 3420** Active galaxies
 - 3440** Clusters of galaxies
 - 3460** The large-scale structure and the expansion of the universe.
 - 3480** Cosmic microwave background radiation.

- 3500 **Magnetohydrodynamics in the field of astrophysics, plasma astrophysics.**
- 3600 **Thermonuclear reactions in astrophysics, particle astrophysics.**
- 4000 - 5600 **Star formation and stellar evolution.**
- 4000 **General overview**
- 4040 **Stellar spectroscopy**
- 4100 **Stellar interiors**
- 4200 **Stellar atmospheres**
- 4300 **Rotation of stars**
- 4500 - 5600 **Star types, classification.**
- 4500 **Novae**
- 4600 **Supernovae**
- 4700 **Red giants**
- 4750 **AGB stars, planetary nebulae**
- 4800 **Red dwarves**
- 4900 **White dwarves**
- 4950 **Neutron stars**
- 5000 **Binary star systems**
- 5200 **Variable stars;**
Pulsars: see also US 4950.
- 5600 **Other topics**
- 6000 – 6700 **The solar system, the Sun.**
See also US 8000 - US 8910, the planetary system of the Sun.
- 6000 **General overview**
- 6100 **The Sun as a star; orbit, rotation**
- 6200 **Solar radiation, nuclear reactions in the Sun, the solar spectrum.**
- 6300 **Solar plasma, solar corona**
- 6400 **The solar chromosphere**
- 6500 **The magnetic field of the Sun**
- 6530 **Sunspots, activity cycles of the Sun**
- 6600 **Protuberances**
- 6700 **The solar wind**
- 7400 - 7700 **Planetary systems in general, exoplanets.**
- 7400 **General overview**
- 7500 **Dynamic processes in planetary systems.**
- 7600 **The search for exoplanets**
- 7650 **Individual exoplanets**
- 8000 - 8910 **The planetary system of the Sun (the Solar System);**
Planetary systems in general, cf. US 7400 - US 7700.
- 8000 **General overview**
- 8030 **Atmospheres of the planets in the Solar System.**
- 8040 **Magnetospheres of the planets in the Solar System.**
- 8100 **Mercury**
- 8150 **Venus**
- 8200 **The Earth as a planet**
- 8300 - 8340 **The Moon**
- 8300 **General overview**
- 8320 **Shape, surface**
- 8325 **Lunar atlases**
- 8340 **Lunar geology (selenology)**
- 8400 **Mars**
- 8420 **Planetoids; asteroids**
- 8500 **Jupiter**
- 8550 **Saturn**
- 8600 **Uranus**
- 8650 **Neptune**
- 8700 **Pluto (formerly classed as a planet).**
- 8750 **The outer regions of the solar system: Possible outer planets and dwarf planets, planetoids; Kuiper belt, Oort cloud.**
Exoplanets: cf. US 7400 - US 7700, planetary systems in general, exoplanets.
- 8800 **Comets**
- 8900 **Meteors and meteorites**
- 8910 **Other phenomena within the solar system, e.g. zodiacal light.**

- 9000 - 9600 Space research.**
See also ZO 8000 - ZO 8900: Space travel and rocket technology.
- 9000 General overview.**
Includes also the space programmes of individual countries, space research using ground stations, satellites etc.
- 9400 Manned space flight**
- 9500 Space technology**
- 9600 Interplanetary and interstellar communication**
- 9800 Astrobiology**
See also WH 2800, Astrobiology ...

UT

1000 – 2970	Physics of the solid Earth – geophysics.
1000 – 1300	Geophysics in general
1000	General overviews and fundamentals.
1050	Conferences and proceedings
1100	History of geophysics
1150	Methods, technical equipment, mathematical techniques.
1200	Interdisciplinary areas, relation to other fields.
1300	International geophysical projects.
1400 – 2250	General geophysics
1400	General overview
1500	Formation and evolution of the Earth.
1550	Structure of the Earth (constitution of the Earth, Earth's crust, mantle, interior, core).
1600	Periodic motions of the Earth.
1650	Earth's gravitational field, gravitational force.
1700	Isostasy.
1800	Seismology, earthquakes.
1900	Radiation physics and the radioactivity of the Earth.
1950	Geothermics.
2000	Earth's electricity.
2100	Earth's magnetism (Earth's magnetic field, magnetism of rocks, paleomagnetism).
2150	Paleo-geophysics
2200	Fluid dynamics
2250	Geodynamics, tektonophysics.
2300 - 2850	Applied geophysics, geophysical methods.
2300	General overview
2350	Gravimetry
2400	Geomagnetics, electromagnetics
2450	Geoelectricity
2500	Seismics
2550	Radiometry, radioisotope geophysics.
2600	Geothermal methods
2650	Geophysical borehole measurements, petrophysics.
2700	Aero-geophysical methods, remote reconnaissance.
2750	Engineering geophysics, composite surveys.
2800	Other methods
2850	Application of geophysical methods to other fields.
2900 - 2970	Regional geophysics
2900	Comprehensive continental descriptions.
2910	Europe
2920	Asia
2930	Africa
2940	Americas
2950	Australia
2960	Polar regions
2970	Oceans

UT PHYSICS OF THE HYDROSPHERE – HYDROLOGY UT (page heading)

UT

- 3000 – 4800** **Physics of the hydrosphere – hydrology.**
- 3000** **General overview**
- 3100** **Mechanics and dynamics of the hydrosphere.**
- 3500** **Thermodynamics of the hydrosphere.**
- 3900** **Acoustics of the hydrosphere.**
- 4300** **Optics of the hydrosphere.**
- 4700** **Other phenomena in the hydrosphere.**
- 4800** **Ocean-atmosphere interactions.**

UT PHYSICS AND CHEMISTRY OF THE ATMOSPHERE – METEOROLOGY UT (page heading)

UT

- 5000 – 9800** **Physics and chemistry of the atmosphere – Meteorology.**
- 5000 – 5090** **Meteorology and climatology in general.**
- 5000** **General overviews and fundamentals.**
- 5010** **Tables and tabulations**
- 5020** **Maps and atlases**
- 5030** **Conferences and proceedings**
- 5050** **Progress reports**
- 5080** **History of meteorology and climatology.**
- 5090** **Interdisciplinary areas, relations to other fields.**
- 5100 – 6600** **General meteorology**
- 5100** **General overview**
- 5150** **Near-surface layers**
- 5200** **Troposphere**
- 5250** **Middle and upper atmosphere (stratosphere, mesosphere, ionosphere, exosphere).**
- 5600** **Oceanography**
- 6000** **Dynamics and thermodynamics of the atmosphere;**
 (air circulation, airflow, wind).
- 6050** **Dynamics on the mesoscale.**
- 6100** **Hydrology of the atmosphere;**
 (clouds and precipitation).
- 6150** **Groundwater**
- 6180** **Glaciology**
- 6200 - 6240** **Modelling**
- 6200** **General modelling**
- 6210** **Numerical weather prediction**
- 6220** **Climate modelling**
- 6230** **Data assimilation**
- 6240** **Predictability**
- 6400** **Acoustics of the atmosphere.**
- 6500** **Optics of the atmosphere, radiation.**
- 6600** **Electricity and radioactivity of the atmosphere.**
- 8000 – 8600** **Applied meteorology**
- 8000** **General overview**
- 8100 - 8130** **Measurements and observational methods.**
- 8100** **Measurements and observational methods in general.**
- 8110** ***in-situ* methods**
- 8120** **Remote measurements, passive**
- 8130** **Remote measurements, active**
- 8200** **Synoptic meteorology**
- 8300** **Bio-meteorology**
- 8400** **Energy meteorology**

- 8600 Specific meteorology of particular zones and regions
- 8700 - 8950 Climatology
 - 8700 General overview, observations
 - 8800 Meso- and microclimatology
 - 8850 Regional climatology
 - 8900 Climate change, climatic variations.
 - 8970 Effects of climate change.
- 9000 – 9800 Chemistry of the atmosphere; aerosols.
 - 9000 General overview
 - 9070 *Indiv. signum:* Particle Atlas
 - 9071 *Indiv. signum:* Advances in Aerosol Physics
- 9100 - 9250 Aerosol particles
 - 9100 Aerosols in general
 - 9150 Microphysical aerosol properties.
 - 9250 Optical aerosol properties.
- 9600 Trace gases
- 9800 Environmental physics; physics of the biosphere in general.

UV Polymer physics

- 1000 **Polymer physics in general, comprehensive presentations of the field of polymer physics.**
- 1020 **Compendia, lectures, reviews**
- 1030 **Specialised dictionaries and encyclopaedias.**
- 1050 **Collections of exercises for polymer physics.**
- 1070 **Tables, tabulations**
- 1090 **Complete publications series**
- 1100 **Conferences, symposia, summer schools on polymer physics.**
- 1199.99 (*Ordered by the last two numbers of the year of the conference*).
- 1100 – 1199 **for 1900 - 1999**
(*Ordered by the last two numbers of the year of the conference*).
- 1999.00 **for 2000 - 2099**
- 1999.99 (*Ordered by the last two numbers of the year of the conference*).
- 2000 **Free polymer molecules and polymer molecules in solution, general.**
As polymers, we denote here a particular type of macromolecules which are formed by building up chains of identical molecular components (monomers). The field of macromolecules in general is much broader and is not covered here. (cf. chemistry: sections VE , VH , VK , VN).
- 2100 **Synthesis and reactions.**
- 2200 **Constitution and chemical configuration, conformations (statistics).**
- 2300 **Spectroscopic methods for characterisation of the configuration.**
- 2400 **Characterisation of plastics in general and identification and testing methods.**
- 2500 **Determination and distribution of molecular weights.**
- 2600 **Transport phenomena in polymers; diffusion, permeation, viscosity.**
- 2700 **Intermolecular forces, intramolecular potentials, rotation potentials.**
- 2800 **Thermodynamics of polymer solutions and swelling.**
- 2890 **Corrosion of plastics.**
- 2900 **Ageing and stability of plastics, durability.**
- 3000 – 3600 **Structure of condensed polymers.**
- 3000 **General overview**
- 3100 **Structure and physical properties of polymer crystals.**
- 3200 **Thermodynamics of the melting and crystallisation of polymers, measurement methods etc.**
- 3300 **Morphological structures of polymers, electron microscopy etc.**
- 3400 **Colloid structures;**
(small-angle X-ray scattering (SAXS) etc. ...).
- 3500 **Structure of amorphous materials and amorphous components (glass temperature).**
- 3600 **Preparation and crystal growth.**
- 4000 – 4600 **Continuum mechanics of polymers.**
- 4000 **General overview**
- 4100 **Mechanical properties; elasticity, plasticity, relaxation, retardation, shrinking.**
(See also [UF 3000](#), [3100](#), [3200](#)).
- 4200 **Rubber elasticity (Neo-Hook, Rivlin-Mooney etc.)**
- 4300 **Breaking processes in polymers, mechanics of breakage in general.**
(See also [UQ 7400](#)).
- 4400 **Micromechanics in composite systems.**
- 4500 **Low-temperature behaviour of polymers (plastics in space applications at 100 - 200 K).**
- 4600 **Acoustic behaviour, sound damping.**
- 5000 – 5500 **Electrical and optical properties of polymers.**
- 5000 **General overview**
- 5100 **Dielectric properties, polarisability, dielectric breakdown, electrostatic charging, dielectric relaxation and absorption, piezoelectricity and ferroelectricity of polymers.**
- 5200 **Conductivity.**
- 5300 **MO theory, phonons, vibrons.**
- 5400 **General optical properties of polymers; double refraction, polarisation and interference microscopy, photoelasticity**
- 5500 **Fluorescence, phosphorescence and luminescence in polymers.**

- 6000** **Thermal and caloric behaviour of polymers.**
Heat conductivity of polymers, thermal expansion of polymers, thermomechanics of polymers, general caloric effects.
- 7000 – 7200** **Interface phenomena in polymers.**
 - 7000** **General overview**
 - 7100** **Surface wetting, adhesion, cohesion.**
 - 7200** **Bonding and coating of polymers, electroplating of plastics.**
- 8000** **Colourimetry and discolouration in polymers.**
- 9000 - 9900** **Particular polymeric substance groups and their technologies.**
 - 9000** **General overview**
 - 9050** **Fibres, foils**
 - 9100** **Casting resins, artificial resins.**
 - 9150** **Elastomers, thermoplastic materials, rubbers.**
 - 9200** **Polymeric foams.**
 - 9240** **Polymer blends and mixtures.**
 - 9250** **Composite materials, fibreglass reinforced polyester, carbon-fibre reinforced polyester.**
 - 9270** **Solvents and plasticisers for polymers.**
 - 9300** **Dispersions**
 - 9350** **Water-soluble polymers.**
 - 9400** **High-temperature resistant and fire-resistant polymers.**
 - 9450** **Degradable polymers**
 - 9500** **Biomedical polymers**
 - 9550** **Semiconducting polymers**
(see also [UP 3100](#)).
 - 9555** **Light-sensitive polymers, polymeric photoreceptors.**
 - 9560** **Polymers with metallic properties (e.g. high electrical conductivity).**
 - 9570** **Inorganic polymers.**
 - 9900** **Other topics (plastics in the building industry etc.)**

- UX Experimental methods of fundamental and applied physics;**
(cf. in general the systematic classification <Technnology>).
- 1100 Theory and evaluation of measurements in general; measurement methods and metrology in general.**
 - 1200 Unit systems, norms, units.**
 - 1300 General methods of experimental physics.**
 - 1320 Spectroscopic methods.**
 - 1380 Other methods (e.g. physical age determinations).**
 - 1400 Machine-shop techniques.**
 - 1450 Mechanical engineering technology, precision machining.**
 - 1500 Vacuum techniques.**
 - 2000 Primary energy; solar energy, wind energy, heat-pump technology, biogas.**
 - 2100 Fundamentals of electronics;**
for University Library Regensburg: cf. ZN 1000 ff.
 - 2150 Electronic devices;**
for University Library Regensburg: cf. ZN 1000 ff.
 - 2200 Electronic circuits, amplifier technology;**
for University Library Regensburg: cf. ZN 1000 ff.
(See also [UH 4000](#)).
 - 2250 Pulsed and digital systems (signals and interference);**
for University Library Regensburg: cf. ZN 1000 ff.
 - 2300 Digital electronics;**
for University Library Regensburg: cf. ZN 1000 ff.
 - 2350 Microelectronics;**
for University Library Regensburg: cf. ZN 1000 ff.
(Electronics see also [UH 4000](#)).
 - 2500 Microwave physics, communications and radio technology;**
for University Library Regensburg: cf. ZN 1000 ff.
 - 3000 Temperature technology in general**
 - 3300 Low-temperature techniques**
 - 3600 High-temperature techniques**
 - 6000 High-pressure techniques**
 - 9000 Control engineering.**
(See also [ZQ 1000](#) ff).

A

Absorption / crystals **UQ 2600**
 Absorption measurement / lasers **UH 5745**
 Absorption / metals **UQ 2600**
 Absorption / model of / hadrons **UO 5390**
 Absorption / model of / strong interaction **UO 5390**
 Absorption / physical optics **UH 5250**
 Accelerators <Nuclear physics> *cf.* particle accelerators
 Acoustics **UF 6000**
 Acoustics / polymers **UV 4600**
 Acoustic surface waves / dispersion <Waves> **UF 6200**
 Active galaxy **US 3420**
 Adhesion / polymers **UV 7100**
 Adhesion / thin films **UP 7990**
 Aerodynamics **UF 4700**
 Aerosol physics / bibliographies **UB 1104**
 Aerosol physics / chemistry **UT 9000**
 Aerosol physics / dictionaries **UB 1485**
 Aerosol physics / personal bibliographies **UB 2085**
 Aerosol physics / popularisations **UB 5280**
 Ageing / polymers **UV 2900**
 Air pollution **UT 9000**
 Air pollution / particle size **UT 9100 - UT 9250**
 Alloys **UQ 7000**
 Alpha decay **UN 3600**
 Alpha decay / nuclear fission **UN 3600**
 Amorphous materials **UQ 8800**
 Amorphous polymers / structure **UV 3500**
 Amorphous semiconductors **UP 3160**
 Amorphous solids / electronics **UP 4200**
 Anderson model **UP 3600**
 Andromeda galaxy **US 3400**
 Angular correlation / measurement **UN 7310**
 Angular correlation / measurement / radioactivity **UN 7310**
 Angular distribution / correlation measurement **UN 2030**
 Angular momentum / elementary particles **UO 2810**
 Angular momentum / quantum mechanics **UK 3500**
 Antiferromagnetism **UP 6300**
 Antiproton **UO 6120**
 Approximations / quantum mechanics **UK 4000**
 Astrobiology **US 9800**
 Astronaut **US 9400**
 Astronavigation **US 1900**
 Astronomical instruments **US 1480**
 Astronomical observations **US 1400**
 Astronomical observations **US 1700**
 Astronomical position determinations **US 1810**
 Astronomical time determinations **US 1800**
 Astronomy **US 1000**
 Astronomy **US 1770**
 Astronomy / bibliographies **UB 1062**
 Astronomy / conferences **US 1100 - US 1199.99**
 Astronomy / data analysis **US 1550**
 Astronomy / dictionaries **UB 1475**
 Astronomy / exercises **US 1050**
 Astronomy / geodetics **US 1900**
 Astronomy / Greece <Antiquity> / history **UB 2477**
 Astronomy / history **UB 2475**
 Astronomy / history / Babylonians **UB 2476**
 Astronomy / history / Greece **UB 2477**

Astronomy / history <0500-1500> **UB 2478**
Astronomy / history <1500-1600> **UB 2479**
Astronomy / history <1600-1700> **UB 2481**
Astronomy / history <1700-1800> **UB 2482**
Astronomy / history <1800-1900> **UB 2483**
Astronomy / history <1900- > **UB 2484**
Astronomy / illustrated books **US 1420**
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Astronomy / textbooks **US 1400**
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Astrophysics / bibliographies **UB 1062**
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Astrophysics / history <1500 - 1600> **UB 2479**
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Astrophysics / textbooks **US 1000**
Astrophysics / textbooks **US 2000**
Astrospectroscopy **US 1550**
Asymptotic red giant **US 4750**
Atmosphere / aero-electricity **UT 6600**
Atmosphere / acoustics **UT 6400**
Atmosphere / dynamics **UT 6000**
Atmosphere / hydrology **UT 6100**
Atmosphere / meteorological optics **UT 6500**
Atmosphere / ocean interactions **UT 4800**
Atmosphere / radioactivity **UT 6600**
Atomic beams / experiments **UM 5000**
Atomic beams / optics **UM 2100**
Atomic mass **UM 2110**
Atomic (nuclear) weapons **UN 5600**
Atomic physics **UM 2000**
Atomic physics / bibliographies **UB 1048**
Atomic physics / dictionaries **UB 1440**
Atomic physics / history **UB 2440**
Atomic physics / instruments / methods **UM 2100**
Atomic physics / molecular physics **UM 1000**
Atomic physics / molecular physics / conferences **UM 1100 - UM 1199.99**
Atomic physics / molecular physics / exercises **UM 1050**
Atomic physics / molecular physics / tables **UM 1070**
Atomic physics / molecular physics / textbooks **UM 1000**
Atomic physics / personal bibliographies **UB 2040**
Atomic physics / popularisations **UB 5140**
Atomic spectrum **UM 2200**
Atomic structure / spectroscopy **UM 2200**
Atoms / electric moments **UM 2130**
Atoms / magnetic moments **UM 2130**
Atoms / molecules / electronic structure **UM 1200**
Atoms / photoionisation **UM 2520**
Atoms / polarisability **UM 2140**
Atoms / spectral lines **UM 2350**
Auger effect **UM 2530**

Autobiographies / physicists **UB 3110**
Autoionisation **UM 4500**
Autoionisation / atoms **UM 2510**
Axial vector / elementary particles **UO 3020**

B

Band conductivity / crystal **UP 5010**
Band intensity / molecular spectrum **UM 4300**
Band spectrum **UM 4200**
Band-structure calculations / solid-state physics **UP 4000**
Baryon **UO 6100**
Baryon / decay / weak interaction **UO 5190**
Baryon resonances **UO 6100**
BCS theory **UP 2200**
BCS theory / nuclear structure / model **UN 1560**
Betatrons **UN 6160**
Bethe-Salpeter equation / quantum field theory **UO 4080**
Bibliographies / physics **UB 1030**
Big Bang **US 2500**
Binary star systems **US 5000**
Binary stars / X-ray sources **US 5000**
Binding energy / nuclear mass **UN 1200**
Binding strength / molecules **UM 3110**
Bibliographies of biographies / physicists **UB 1700**
Biogas **UX 2000**
Biographies / physicists **UB 3100**
Biosphere / physics **UT 9800**
Black holes **US 2200**
Black holes **US 4950**
B-meson decay **UO 5185**
Bonding / polymers **UV 7200**
Bootstrap hypothesis / dispersion relations **UO 2620**
Bootstrap hypothesis / hadrons **UO 5350**
Bootstrap hypothesis / strong interaction **UO 5350**
Born approximation / DWBA method **UN 2530**
Bosons **UO 6420**
Bound state / quantum field theory **UO 4080**
Branching process **UG 3900**
Breakage mechanics **UF 3150**
Breakage / metals **UQ 7400**
Breeder reactor **UN 5320**
Broglie, Louis de **UB 2542**
Bubble chamber **UN 7230**

C

Cameras **UH 7000**
Capture processes **UN 3150**
Carbides **UQ 2500**
Carbon-fibre reinforced plastics **UV 9250**
Casting resin **UV 9100**
Cataclysmic binary stars **US 5000**
Causality / physics **UB 6500**
Cavity resonator **UH 3000**
Celestial mechanics **US 1200**
Celestial observations **US 1400**
Cellular automata **UG 3100**
Ceramic materials **UQ 8500**
Ceramic materials / phase diagram **UQ 8520**
Charge conjugation / elementary particles / symmetry **UO 1520**
Charge exchange / heavy-ion scattering **UN 3340**
Charge transfer / spectrum **UM 4100**

Charmed mesons / weak interaction **UO 5180**
Chemical bonding / crystals **UQ 3100**
Chemical bonding / magnetism **UP 6500**
Chemical lasers **UH 5625**
Chemiluminescence **UH 5850**
Cherenkov detectors **UN 7250**
Cherenkov radiation / astronomy **US 1670**
Cherenkov radiation / electrodynamics **UH 6600**
Chiral symmetry / elementary particles **UO 1580**
Chromosphere / Sun **US 6400**
Close binary stars **US 5000**
Cloud chamber **UN 7220**
Cluster model / nuclear physics **UN 1540**
Coating / polymers **UV 7200**
Coaxial cable **UH 5765**
Coherence / laser **UH 5680**
Coherent optics **UH 5680**
Cohesion / polymers **UV 7100**
Coincidence / measurements / particle beams / radioactive radiations **UN 7320**
Collected biographies / physicists **UB 3100**
Collective model / nuclear physics **UN 1520**
Colour-centre lasers **UH 5615**
Colour centres / crystals **UP 8300**
Colourimetry **UH 6900**
Colourimetry / colour theory **UH 7400**
Colourimetry / optics **UH 7400**
Colourimetry / polymers **UV 8000**
Combustion **UR 5800**
Comets **US 8800**
Communications technology / lasers **UH 5750**
Composite materials **UQ 8420**
Composite materials / polymers **UV 9250**
Compton effect **UK 7800**
Concentration measurements / laser **UH 5745**
Continuing education / physics **UB 4080**
Continuum mechanics **UF 2000**
Continuum mechanics / bibliographies **UB 1076**
Continuum mechanics / dictionaries **UB 1405**
Continuum mechanics / history **UB 2405**
Continuum mechanics / personal bibliographies **UB 2005**
Continuum mechanics / polymers **UV 4000**
Continuum mechanics / popularisations **UB 5040**
Control technology **UX 9000**
Cooperative phenomena **UG 3900**
Copernicus, Nicolaus **UB 2662**
Corpuscular beam **UN 6700**
Corpuscular beam / measurements **UN 7000**
Correlation measurement / angular distribution / nuclear-nuclear scattering **UN 2030**
Corrosion **UQ 7500**
Corrosion / plastics **UV 2890**
Cosmic background radiation **US 3480**
Cosmic dust **US 8910**
Cosmic rays **UO 9500**
Cosmological constant **US 3460**
Cosmological model **US 2200**
Cosmology **US 2000**
Coulomb excitation / heavy-ion reactions **UN 3350**
CP parity **UO 5170**
Critical phenomena **UG 3900**
Crossing symmetry / dispersion relation **UO 2630**
Crystal chemistry **UQ 3000**
Crystal field theory **UP 3500**
Crystal field theory / mineralogy / applications **UQ 4200**

Crystal growth **UQ 2000**
Crystal growth / evaporation **UQ 2160**
Crystal growth / flux **UQ 2120**
Crystal growth / gas phase **UQ 2160**
Crystal growth / imperfections **UQ 2400**
Crystal growth / melt **UQ 2100**
Crystal growth / physical-chemical measurement **UQ 2300**
Crystal growth / polymers **UV 3600**
Crystal growth / solution **UQ 2140**
Crystal growth / vapour phase **UQ 2160**
Crystal mathematics **UQ 1200**
Crystal optics **UQ 4500**
Crystal optics / optical phenomena / atlases **UQ 4640**
Crystal optics / tables **UQ 4600**
Crystal physics **UQ 4000**
Crystal shapes / atlases **UQ 1225**
Crystal structure analysis **UQ 5000**
Crystal structure analysis / electron diffraction **UQ 5500**
Crystal structure analysis / mathematical methods **UQ 5300**
Crystal structure analysis / neutron diffraction method **UQ 5550**
Crystal structure analysis / powder method **UQ 5400**
Crystal structure analysis / specific materials groups **UQ 5200**
Crystal structure analysis / tables **UQ 5050**
Crystal structure analysis / textbooks **UQ 5100**
Crystal structure / phase transformation **UQ 3400**
Crystal surface treatment **UQ 2800**
Crystallisation **UQ 2000**
Crystallisation / of polymers **UV 3200**
Crystallography **UQ 1000**
Crystallography / bibliographies **UB 1056**
Crystallography / conferences **UQ 1100 - UQ 1199.99**
Crystallography / dictionaries **UB 1460**
Crystallography / exercises **UQ 1050**
Crystallography / geometry **UQ 1200**
Crystallography / group theory **UQ 1350**
Crystallography / history **UB 2460**
Crystallography / personal bibliographies **UB 2060**
Crystallography / physical-chemical measurements **UQ 2300**
Crystallography / popularisations **UB 5220**
Crystallography / textbooks **UQ 1000**
Crystals / band conductivity **UP 5010**
Crystals / colour centres **UP 8300**
Crystals / elasticity **UQ 4100**
Crystals / microscopy **UQ 4500**
Crystals / plasticity **UQ 4100**
Crystals / polarisation microscopy **UQ 4500**
Crystals / thermal expansion **UQ 4300**
Crystals / thermal properties **UQ 4300**
Curie, Marie **UB 2554**
Current algebra / elementary particles **UO 3000**
Current algebra / Lagrange representation / elementary particles **UO 3010**
Curricula / physics / elementary schools **UB 4096**
Curricula / physics / high schools, upper forms **UB 4092**
Curricula / physics / middle schools / middle forms **UB 4093**
Curricula / physics / middle schools **UB 4093**
Curricula / physics / secondary schools **UB 4095**
Curricula / physics / special education **UB 4097**
Curricula / physics / technical colleges / adult education **UB 4091**
Curricula / physics / technical schools **UB 4094**
Curricula / physics / university level **UB 4090**
Cyclic accelerators *cf.* oscillating-field accelerators
Cyclotron **UN 6170**
Cyclotron resonance **UP 4100**

D

Dark energy **US 3460**
Dark matter **US 3100**
Dark matter **US 3440**
Dark matter **US 3460**
Data analysis / astronomy **US 1550**
Debye-Sears effect **UH 5715**
Decay <Physics> / lasers **UH 5680**
Deep-inelastic heavy-ion reactions **UN 3360**
De Haas-van Alphen effect **UP 4100**
Delta-Cephei stars **US 5200**
Desalination / nuclear reactor technology **UN 5370**
Detector circuit **UN 7300**
Determinism / physics **UB 8000**
Diamagnetism **UP 6100**
Diamond **UQ 8220**
Didactics / physics **UB 4049**
Didactics / physics / teaching materials **UB 4060**
Dielectric / absorption / polymers **UV 5100**
Dielectric liquids **UR 4700**
Dielectric / polymers **UV 5100**
Dielectric relaxation / polymers **UV 5100**
Dielectrics **UP 4600**
Differential thermal analysis **UQ 3500**
Diffraction / electromagnetic waves **UH 5200**
Diffusion / crystals **UQ 2600**
Diffusion / gas **UR 5700**
Diffusion / metals **UQ 2600**
Diffusion / polymers **UV 2600**
Diffusion / solids **UP 5070**
Diffusion / thin films **UP 7990**
Dilute gas / dynamics **UR 5600**
Dimensional equation **UB 9000**
Discharge lamp *cf.* gas-discharge lamp
Discolouration / polymers **UV 8000**
Dislocation <Crystallography> / crystal growth **UQ 2440**
Dislocation <Crystallography> / lattice defects **UP 2100**
Dispersion / polymers **UV 9300**
Dispersion relation / bootstrap hypothesis **UO 2620**
Dispersion relation / crossing symmetry **UO 2630**
Dispersion relation / Mandelstam representation **UO 2650**
Dispersion relation / sum rule **UO 2600**
Dissertations / bibliographies / physics **UB 1028**
Dissociation energy / molecules **UM 3110**
Distance measurements / lasers **UH 5730**
Distance measurements / universe **US 3460**
Dosimetry **UN 7100**
Double refraction / polymers **UV 5400**
Droplet model (nuclei – liquid drop model) **UN 1520**
Duality / hadrons **UO 5360**
Dual model / hadrons **UO 5360**
Dual model / strong interaction **UO 5360**
Durability / polymers **UV 2900**
Dwarf galaxy **US 3100**
Dwarf nova **US 5000**
Dwarf planet **US 8750**
DWBA method / Born approximation **UN 2530**
Dye lasers **UH 5620**
Dynamic lattice *cf.* transient lattice

E

Earth **US 8200**
Eclipsing binaries **US 5000**
Eikonal / hadrons **UO 5390**
Eikonal / scattering theory **UO 2730**
Eikonal / strong interaction **UO 5390**
Elasticity / crystals **UQ 4100**
Elasticity / polymers **UV 4100**
Elasticity theory **UF 3000**
Elastomers **UV 9150**
Electrets **UP 4700**
Electrical conductivity **UH 3500**
Electrical conductivity / liquids **UR 4600**
Electrical conductivity / polymers **UV 5200**
Electrical conductivity / solids **UP 5000**
Electrical conductivity *see also* dielectrics
Electrical conductivity *see also* ferroelectricity
Electrical conductivity *see also* semiconductors
Electrical conductivity *see also* solids / electrical properties
Electrical conductivity *see also* superconductivity
Electrical conductivity *see also* thermoelectricity
Electric moment / atoms **UM 2130**
Electric moments / hadrons **UO 5220**
Electric moments / molecules **UM 3130**
Electrocrystallisation **UQ 2220**
Electrodynamics **UH 1000**
Electrodynamics / bibliographies **UB 1040**
Electrodynamics / conferences **UH 1100 - UH 1199.99**
Electrodynamics / dictionaries **UB 1420**
Electrodynamics / exercises **UH 1050**
Electrodynamics / history **UB 2420**
Electrodynamics / personal bibliographies **UB 2020**
Electrodynamics / popularisations **UB 5080**
Electrodynamics / tables **UH 1070**
Electrodynamics / textbooks **UH 1000**
Electroluminescence **UH 5830**
Electromagnetic form factor / hadrons **UO 5220**
Electromagnetic interaction **UO 5200**
Electromagnetic interaction / atomic nucleus **UN 2000**
Electromagnetic interaction / energy-level transitions **UN 2010**
Electromagnetic interaction / hadrons **UO 5240**
Electromagnetic moments / nuclear structure **UN 1250**
Electromagnetic transitions *cf.* energy-level transitions
Electromagnetic waves **UH 3000**
Electron **UO 6310**
Electron capture / atomic nucleus **UN 2100**
Electron diffraction / crystal structure determination **UQ 5500**
Electron emission / solids **UP 5500**
Electron-hole pair **UP 3710**
Electron paramagnetic resonance *cf.* electron spin resonance (ESR)
Electron-phonon interaction **UP 3725**
Electron-positron annihilation / solids **UP 4400**
Electron scattering / nuclear physics **UN 3040**
Electron scattering / solids **UP 9300**
Electron scattering / solids **UP 9320**
Electron spin-echo envelope modulation *cf.* ESEEM
Electron spin resonance **UM 3700**
Electron spin-resonance spectroscopy **UP 9340**
Electronic structure **UM 1200**
Electrophotography **UH 7000**
Electroplating / polymers **UV 7200**
Electrostatic accelerators **UN 6120**

Electrostatic charging / polymers **UV 5100**
Electrostatic / particle accelerators **UN 6120**
Electrostatics **UH 2000**
Electroweak interaction / gauge theory **UO 5510**
Elementary-particle interactions / phenomenology **UO 5000**
Elementary-particle physics / astrophysics **US 3600**
Elementary-particle physics / bibliographies **UB 1052**
Elementary-particle physics / conferences **UO 1100 - UO 1199.99**
Elementary-particle physics / exercises **UO 1050**
Elementary-particle physics / history **UB 2450**
Elementary-particle physics / particle accelerators **UN 6100**
Elementary-particle physics / personal bibliographies **UB 2050**
Elementary-particle physics / popularisations **UB 5180**
Elementary-particle physics / symmetry properties / conservation laws **UO 1500**
Elementary-particle physics / tables **UO 1070**
Elementary-particle physics / textbooks **UO 1000**
Elementary particles **UO 6000**
Elementary particles / weak interaction / phenomenology **UO 5100**
Ellipsometry **UP 8300**
Elliptical nebula **US 3100**
Emission nebula **US 3300**
Energy-level transitions / atomic nucleus / angular distribution **UN 2030**
Energy-level transitions / atomic nucleus / correlation measurement **UN 2030**
Energy-level transitions / atomic nucleus / internal conversion **UN 2070**
Energy-level transitions / atomic nucleus / lifetime **UN 2020**
Energy-level transitions / atomic nucleus / multipole matrix elements **UN 2050**
Energy-level transitions / atomic nucleus / multipole transitions **UN 2060**
Energy-level transitions / atomic nucleus / transition probability **UN 2020**
Energy-range relation **UN 7100**
Entropy / information theory **UG 3000**
Environmental physics **UT 9800**
Ephemerides **US 1860**
Epitaxy **UQ 2200**
Eruptive variable stars **US 5200**
ESEEM **UP 9340**
ESR *cf.* electron spin resonance
Etching / crystal surface treatment **UQ 2800**
Evaporation / crystal growth **UQ 2160**
Examinations preparation / physics **UB 4085**
Excimer lasers **UH 5628**
Exciplex / lasers **UH 5628**
Excited state / lifetime / atomic spectrum **UM 2350**
Excited state / lifetime / molecular spectrum **UM 4300**
Excitons **UP 3710**
Exoplanets *cf.* extrasolar planets
Exosphere **UT 5250**
Exotic atoms **UM 2160**
Expansion / universe **US 3460**
Experimental physics / methods **UX 1300**
Experiments / history **UB 2490**
Experiments / methods **UX 1300**
Experiments / nuclear physics **UN 6000**
Experiments / physics / bibliographies **UB 1067**
Experiments / physics / dictionaries **UB 1490**
Experiments / physics / personal bibliographies **UB 2090**
Experiments / physics / popularisations **UB 5300**
Extrasolar planets (exoplanets) **US 7400**
Extrasolar planets (exoplanets) **US 7650**
Extrasolar planets / discovery **US 7600**
Extrasolar planets / research methods **US 7600**
Extraterrestrial life **US 9800**
Eye / optics / information processing **UH 7200**

F

Faddeev equation
Far infrared *cf.* FIR
Fast breeder reactor **UN 5320**
Fatigue <Materials> *cf.* metals fatigue
Fatigue / metals **UQ 7400**
Femtosecond lasers **UH 5618**
Femtosecond spectroscopy **UH 5710**
Fermi liquid **UR 3000**
Fermi surface / solid-state physics **UP 4100**
Fermion system **UP 3600**
Fermion system / interactions **UL 4000**
Ferrimagnetism **UP 6300**
Ferroelectricity **UP 4700**
Ferroelectricity / polymers **UV 5100**
Ferroelectrics **UP 4700**
Ferrofluids *cf.* magnetic liquids
Ferromagnetism **UP 6300**
Festschrift / groups **UB 3710**
Festschrift / individual physicists **UB 3410**
Fibre optics **UH 5760**
Fibre structure **UP 5050**
Fibres / polymer **UV 9050**
Field emission **UP 5500**
Field-emission microscopy **UH 6330**
Field-ion microscopy **UH 6330**
Field theory / elementary particles **UO 4000**
Field theory / elementary particles / asymptotic **UO 4030**
Field theory / elementary particles / axiomatic **UO 4010**
Field theory / elementary particles / bound state **UO 4080**
Field theory / elementary particles / nonlinear theory **UO 4040**
Field theory / elementary particles / renormalisation **UO 4020**
Field theory / quantum chromodynamics **UO 5730**
Film dosimetry **UN 7100**
Filter / optics **UH 5400**
FIR laser **UH 5632**
FIR spectroscopy **UH 6000**
Flash lamp **UH 6700**
Fluctuations <Physics> / noise **UG 3700**
Fluctuations <Physics> / spin **UP 6700**
Fluorescence **UH 5870**
Fluorescence lines **UH 5710**
Fluorescence / polymers **UV 5500**
Flux / crystallisation from **UQ 2120**
Foam (plastic) **UV 9200**
Foil / polymers **UV 9050**
Formula tabulations / physics **UC 300**
Fourier optics **UH 5400**
Fourier spectroscopy **UH 5400**
Fourier-transform spectroscopy **UH 6000**
Fractals **UG 3900**
Franck-Condon principle / molecular spectra **UM 4250**
Free-electron laser **UH 5635**
Frequency multiplication **UH 5690**
Fuel elements / production **UN 5230**
Fuel elements / reprocessing **UN 5230**
Fullerenes **UQ 8230**

G

Galactic centre **US 3350**
Galaxy **US 3400**
Galaxy clusters **US 3440**
Galaxy / dynamics **US 3100**
Galaxy / dynamics **US 3440**
Galaxy / evolution **US 3100**
Galaxy group **US 3440**
Galaxy / morphology **US 3100**
Galaxy / motion **US 3440**
Galaxy / structure **US 3100**
Galaxy *cf.* star systems
Galvanomagnetic effect **UP 5100**
Gamma radiation / detector array **US 1670**
Gamma radiation / matter / interaction **UK 7800**
Gamma-ray astronomy **US 1670**
Gamma-ray bursts **US 1670**
Gas discharge lamp **UH 6700**
Gas dynamics **UG 1300**
Gas dynamics / isotope separation **UN 5520**
Gas / electrical phenomena **UR 6000**
Gas / ionisation phenomena **UR 6000**
Gas laser **UH 5625**
Gas-liquid interface **UR 4500**
Gas phase / crystal growth **UQ 2160**
Gas-phase metal **UQ 7740**
Gas / physics **UR 5000**
Gas / physics / bibliographies **UB 1058**
Gas / physics / conferences **UR 5100**
Gas / physics / dictionaries **UB 1470**
Gas / physics / history **UB 2470**
Gas / physics / personal bibliographies **UB 2070**
Gas / physics / popularisations **UB 5240**
Gas / statistical mechanics **UG 3100**
Gas / transport processes **UR 5700**
Gas / viscosity **UR 5700**
Gauge theory / electroweak interaction **UO 5510**
Gauge theory / quantum field theory **UO 4060**
Gauge theory / unity of **UO 5800**
Gemology **UQ 6140 - UQ 6190**
General relativity theory **UH 8300**
General relativity theory / cosmology **US 2300**
Gennes, Pierre-Gilles de **UB 2594**
Geochemistry **UQ 6400**
Geodesy / astronomy **US 1900**
Geodetic astronomy **US 1900**
Geometrical crystallography *cf.* crystal mathematics
Geometrical optics **UH 5080**
Geophysics / bibliographies **UB 1064**
Geophysics / dictionaries **UB 1485**
Geophysics / history **UB 2485**
Geophysics / personal bibliographies **UB 2085**
Geophysics / popularisations **UB 5280**
Giant resonance **UN 2550**
Glass **UQ 8600**
Glass-fibre reinforced plastic **UV 9250**
Glass-fibre technology / lasers **UH 5760**
Graphite **UQ 8225**
Gravitation / astrophysics **US 2300**
Gravitation theory / astrophysics **US 2300**
Gravitation theory / astrophysics **US 2400**
Gravitational lens **UH 8700**

Gravitational lens **US 3460**
Gravitational waves **US 2300**
Gravitational waves / detection **UH 8700**
Group theory / crystallography **UQ 1350**
Group theory / quantum mechanics **UK 3000**
Group theory / solid-state physics **UP 1200**
Gunn effect **UP 3200**

H

Hadrons / absorption / model **UO 5390**
Hadrons / bootstrap hypothesis **UO 5350**
Hadrons / classification **UO 5370**
Hadrons / dual model **UO 5360**
Hadrons / eikonal / model **UO 5390**
Hadrons / electric moments **UO 5220**
Hadrons / electromagnetic form factors **UO 5220**
Hadrons / electromagnetic interaction **UO 5240**
Hadrons / magnetic moments **UO 5220**
Hadrons / optical model **UO 5390**
Hadrons / potential <Physics> / model **UO 5400**
Hadrons / Regge poles **UO 5420**
Hadrons / statistical model **UO 5340**
Hadrons / vector meson dominance **UO 5430**
Hall effect **UP 5110**
Hard materials **UQ 8440**
Hartree-Fock approximation / nuclear structure / model **UN 1550**
Heat conductivity / solids **UP 5200**
Heat pump **UX 2000**
Heat transport **UG 2500**
Heavy-fermion systems **UP 3600**
Heavy-ion physics **UN 3550**
Heavy-ion scattering / charge exchange **UN 3340**
Heavy-ion scattering / Coulomb excitation **UN 3350**
Heavy-ion scattering / matter **UN 3330**
Heavy-ion scattering / nucleon-transfer reactions **UN 3320**
Heavy-ion scattering / reaction mechanisms **UN 3310**
HEGRA **US 1670**
Helicity **UO 2710**
Helium / superfluidity **UR 3000**
HF *cf.* high frequency; radiofrequency
High-energy physics **UO 1000**
High-energy physics / bibliographies **UB 1052**
High-energy physics / conferences **UO 1100 - UO 1199.99**
High-energy physics / dictionaries **UB 1450**
High-energy physics / exercises **UO 1050**
High-energy physics / history **UB 2450**
High-energy physics / personal bibliographies **UB 2050**
High-energy physics / popularisations **UB 5180**
High-energy physics / tables **UO 1070**
High-energy physics / textbooks **UO 1000**
High-frequency accelerators / nuclear structure **UN 1560**
High magnetic-field physics **UP 6900**
High-pressure physics **UP 2500**
High pressure / solid-state physics **UP 2500**
High-purity substances / crystal growth **UQ 2700**
High-speed photography **UH 7000**
High-strength materials **UQ 8440**
High-temperature superconductors **UP 2200**
High-temperature technology **UX 3600**
High temperatures / durability / polymers **UV 9400**
Holography **UH 5450**
Hopping conductivity **UP 5060**

Hubble constant **US 3460**
Hydrodynamics **UF 4000**
Hydrodynamics / applications **UF 4500**
Hydrodynamics / astrophysics **US 3500**
Hydrodynamics / bibliographies **UB 1036**
Hydrodynamics / dictionaries **UB 1405**
Hydrodynamics / history **UB 2405**
Hydrodynamics / personal bibliographies **UB 2005**
Hydrodynamics / popularisations **UB 5040**
Hydrogen / liquid **UR 2900**
Hydrogen / solid **UR 2900**
Hydrosphere / acoustics **UT 3900**
Hydrosphere / geophysics **UT 3000**
Hydrosphere / optics **UT 4300**
Hydrosphere / thermodynamics **UT 3500**
Hydrothermal synthesis **UQ 2150**
Hyperfine interactions / electronic structure / atoms **UM 1300**
Hyperfine interactions / electronic structure / molecules **UM 1300**
Hypernucleus **UN 1700**
Hyperon **UO 6140**
Hypothetical particles **UO 6400**

I

Ice / water **UQ 8240**
Image converter **UH 5970**
Image processing / astronomy **US 1550**
Impurities / crystals / optical properties **UP 8300**
Indeterminism / physics **UB 8000**
Inflationary universe **US 2500**
Inflationary universe **US 3460**
Information theory / entropy **UG 3000**
Infrared – *see also* FIR
Infrared astronomy **US 1660**
Infrared detectors **UH 5955**
Infrared / emission spectroscopy **UH 6010**
Infrared / fibre optics **UH 5975**
Infrared lasers **UH 5632**
Infrared / laser spectroscopy **UH 6030**
Infrared photography **UH 5970**
Infrared sources **UH 5910**
Infrared spectroscopy **UH 6000**
Infrared spectrum / atomic physics **UM 2240**
Infrared spectrum / molecular physics **UM 3260**
Infrared telescopes **US 1660**
Inorganic materials **UQ 8200**
Inorganic polymers **UV 9570**
Instrumental optics **UH 6700**
Integrable system **UL 3100**
Integrals / quantum mechanics **UK 4500**
Integrated optics / lasers **UH 5765**
Integrated optics / lasers – *see also* semiconductors / optical properties
Interactions / elementary particles / phenomenology **UO 5000**
Interface / liquids **UR 4400**
Interface / polymers **UV 7000**
Interface / solids **UP 7500**
Interfaces, theory **UF 4200**
Interference <Physics> / electromagnetic waves **UH 5400**
Interference microscopy / polymers **UV 5400**
Interferometer / gravitational wave detection **UH 8700**
Interferometry **UH 5400**
Intermetallic compounds **UQ 7250**
Intermolecular force / polymers **UV 2700**

Internal conversion / nuclear-nuclear interactions **UN 2070**
Interplanetary dust **US 8910**
Interplanetary matter **US 8910**
Interplanetary space **US 8910**
Interstellar communication **US 9600**
Interstellar dust **US 3300**
Interstellar matter **US 3300**
Interstellar space **US 3300**
Ion **UM 2160**
Ion beams / experiments **UM 5000**
Ion beams / optics **UH 6200**
Ion impact / solids **UP 9300**
Ion implantation / semiconductors **UP 3000**
Ion transport / solids **UP 5070**
Ionic crystals / solid-state physics **UP 3300**
Ionisability / atoms **UM 2500**
Ionisation **UM 4500**
Ionisation / atoms **UM 2590**
Ionisation chamber **UN 7210**
Ionosphere **UT 5250**
Ising model **UG 3100**
Isobaric analogue states **UN 2560**
Isospin / elementary particles **UO 2800**
Isospin / nuclear structure **UN 1230**
Isotope effects **UM 1300**
Isotope separation / gas dynamic **UN 5220**
Isotope separation / lasers **UH 5775**
Isotopes **UM 2110**
Isotopic enrichment **UN 5500**
Isotopic enrichment / lasers **UH 5775**

J

Jahn-Teller effect **UP 3750**
Josephson effect **UP 1410**
Jupiter <Planet> **US 8500**

K

Kaons **UO 6210**
Kerr effect **UH 5500**
Kinetic theory of gases **UG 1300**
K-mesons *cf.* kaons
Kondo lattice **UP 4000**
Kuiper ring **US 8750**

L

Laboratory equipment / operation **UB 4100**
Lagrange formulation / current algebra / elementary particles **UO 3010**
Lagrange formulation / quantum field theory **UO 4020**
Laminar flow **UF 4100**
Laser diodes **UH 5616**
Laser gyroscope **UH 5737**
Laser light **UH 5680**
Laser spectroscopy **UH 5710**
Lasers / absorption measurements **UH 5745**
Lasers / bibliographies **UB 1040**
Lasers / biology **UH 5722**
Lasers / chemistry **UH 5721**
Lasers / coherence **UH 5680**
Lasers / communications technology **UH 5750**
Lasers / concentration measurements **UH 5745**

Lasers / conferences **UH 5100**
Lasers / current excitation **UH 5655**
Lasers / decay **UH 5680**
Lasers / dictionaries **UB 1420**
Lasers / distance measurements **UH 5730**
Lasers / gas-discharge excitation **UH 5660**
Lasers / glass-fibre technology **UH 5760**
Lasers / history **UB 2420**
Lasers / integrated optics **UH 5765**
Lasers / intensity **UH 5680**
Lasers / isotope separation **UH 5775**
Lasers / materials processing **UH 5750**
Lasers / materials testing **UH 5750**
Lasers / medicine **UH 5723**
Lasers / metrology **UH 5725**
Lasers / mode coupling **UH 5680**
Lasers / noise **UH 5695**
Lasers / personal bibliographies **UB 2020**
Lasers / plasma physics **UH 5770**
Lasers / polarisation **UH 5680**
Lasers / popularisations **UB 5080**
Lasers / Q-factor modulation **UH 5680**
Lasers / rotation measurements **UH 5737**
Lasers / solid-state **UH 5615**
Lasers / spectral problems **UH 5680**
Lasers / temperature measurements **UH 5740**
Lasers / velocity measurements **UH 5735**
Lattice defects / crystal growth **UQ 2400**
Lattice defects / elasticity **UQ 4100**
Lattice defects / metals **UQ 7360**
Lattice defects / plasticity / elasticity **UQ 4100**
Lattice defects / theory **UP 2100**
Lattice dynamics / phonons **UP 1500**
LCAO method **UP 4000**
Learning programmes *cf.* curricula
LEED **UP 9320**
Leptonic decays / nuclear / weak interaction **UN 2110**
Leptonic decays / weak interaction **UO 5160**
Leptons **UO 6300**
Lidar **UH 7600**
Lifetime measurements / excited state / atomic spectrum **UM 2350**
Lifetime measurements / excited state / molecular spectrum **UM 4300**
Ligand field theory **UP 3500**
Light modulation **UH 5790**
Light scattering / liquids **UR 1800**
Light scattering / solids **UP 9000**
Line intensity / molecular spectra **UM 4300**
Line profiles / molecular physics **UM 4350**
Line shape *cf.* line profile
Line shift / atomic spectra **UM 2350**
Line shift / molecular spectra **UM 4350**
Line widths / molecular spectra **UM 4350**
Linear accelerators **UN 6130**
Liquid (dye) lasers **UH 5620**
Liquid-gas / interface phenomena **UR 4500**
Liquid-liquid interface phenomena **UP 7640**
Liquid metals **UQ 7720**
Liquids **UR 1000**
Liquids / conferences **UR 1100**
Liquids / electrical conductivity **UR 4600**
Liquids / exercises **UR 1050**
Liquids / interface phenomena **UR 4400**
Liquids / light scattering **UR 1800**

Liquids / physics / bibliographies **UB 1058**
Liquids / physics / dictionaries **UB 1470**
Liquids / physics / history **UB 2470**
Liquids / physics / personal bibliographies **UB 2070**
Liquids / physics / popularisations **UB 5240**
Liquids / statistical theory **UR 1500**
Liquids / transport processes **UR 1600**
Literature research / physics **UB 1020**
Local group **US 3400**
Local group **US 3440**
Lorentz invariance / elementary-particle physics **UO 1510**
Loschmidt, Joseph **UB 2682**
Low-dimensional conductor **UP 5050**
Low-energy electron diffraction *cf.* LEED
Low-temperature physics **UP 2300**
Low-temperature physics / polymers **UV 4500**
Low-temperature technology / down to 150 Kelvin **UX 3300**
Lubricants **UF 4200**
Luminescence / phosphorescence **UH 5800**
Luminescence / polymers **UV 5500**

M

Machine shop / techniques **UX 1400**
Magellanic clouds **US 3400**
Magnetic bubbles **UP 6800**
Magnetic field / Sun **US 6500**
Magnetic fields / production / technology **UP 6900**
Magnetic liquids **UR 4800**
Magnetic materials **UP 6800**
Magnetic moments / atoms **UM 2130**
Magnetic moments / hadrons **UO 5220**
Magnetic moments / molecules **UM 3130**
Magnetic resonance / solid-state physics **UP 9400**
Magnetic susceptibility / molecules **UM 3140**
Magnetism **UP 6000**
Magnetism / chemical bonding **UP 6500**
Magnetism / exercises **UP 6050**
Magnetism / tables **UP 6070**
Magnetism / thin films **UP 6400**
Magnetohydrodynamics **UR 7000**
Magnetohydrodynamics / astrophysics **US 3500**
Magneto-optics **UH 5500**
Magnetosphere / planets **US 8040**
Magnetostatics **UH 2500**
Magnons *cf.* spin waves
Mandelstam representation / dispersion relation **UO 2650**
Many-body problem **UL 6000**
Many-body system / quantum mechanics **UL 1000**
Many-body theory **UL 1000**
Many-body theory / bibliographies **UB 1086**
Many-body theory / conferences **UL 1100 - UL 1199.99**
Many-body theory / dictionaries **UB 1435**
Many-body theory / history **UB 2435**
Many-body theory / personal bibliographies **UB 2035**
Many-body theory / popularisations **UB 5120**
Mars <Planet> **US 8400**
Masers **UH 5640**
Mass spectrometers **UM 2100**
Mass spectrum **UM 2110**
Mass spectrum / molecular physics **UM 3120**
Materials / polymers **UV 9000**
Materials processing / lasers **UH 5750**

Materials science / dictionaries **UB 1460**
Materials testing / lasers **UH 5750**
Mathematical physics **UP 1300**
Measurement methods *cf.* measurements
Measurement techniques **UX 1100**
Measurement techniques / lasers **UH 5725**
Measurements / theory **UX 1100**
Mechanics **UF 1000**
Mechanics / bibliographies **UB 1036**
Mechanics / dictionaries **UB 1405**
Mechanics / exercises **UF 1050**
Mechanics / history **UB 2405**
Mechanics / personal bibliographies **UB 2005**
Mechanics / rigid bodies **UF 1200**
Mechanics / tables **UF 1070**
Mechanics / technical applications **UF 1500**
Mechanics / textbooks **UF 1000**
Medium-energy physics / scattering **UN 3430**
Meitner, Lise **UB 2693**
Melt / crystal growth **UQ 2100**
Melting / solidification **UQ 2100**
Melting / polymers **UV 3200**
Mercury <Planet> **US 8100**
Meson decay / strangeness **UO 5175**
Meson decay / weak interaction **UO 5180**
Meson resonance **UO 6200**
Meson scattering **UN 3410**
Mesons **UO 6200**
Mesosphere **UT 5250**
Messier catalogue **US 1850**
Metal film **UP 7560**
Metal-insulator-metal system **UP 4610**
Metal-semiconductor contacts **UP 7560**
Metal vapour **UQ 7740**
Metallic glass (metglass) **UQ 8600**
Metallurgy **UQ 7100**
Metallurgy / bibliographies **UB 1056**
Metallurgy / dictionaries **UB 1460**
Metallurgy / history **UB 2460**
Metallurgy / personal bibliographies **UB 2060**
Metallurgy / teaching laboratories **UQ 7040**
Metallurgy / theory **UQ 7020**
Metals **UQ 7000**
Metals / breakage **UQ 7400**
Metals / chemistry / methods **UQ 7320**
Metals / fatigue **UQ 7400**
Metals / lattice defects **UQ 7360**
Metals / mechanical properties **UQ 7400**
Metals / radiation damage **UQ 7380**
Metals / tables **UQ 7200**
Metals / texture **UQ 7340**
Meteorites **US 8900**
Meteorology **UT 8000**
Meteorology / bibliographies **UB 1064**
Meteorology / history **UB 2485**
Meteorology / personal bibliographies **UB 2085**
Meteorology / popularisations **UB 5280**
Meteorology / specialised dictionaries **UB 1485**
Meteors **US 8900**
Micromechanics / polymers / composite system **UV 4400**
Microscopes **UH 6700**
Microscopy / crystals **UQ 4500**
Microscopy / crystallography / handbook **UQ 4620**

Microwave / physics **UX 2500**
Microwave spectrum / atomic physics **UM 2240**
Microwave spectrum / communications technology **UX 2500**
Microwave spectrum / molecular physics **UM 3240**
Milky Way system **US 3200**
Milky Way system **US 3400**
Millimetre-wave technology **UH 5950**
Mineral identification / external characteristics **UQ 6200 - UQ 6240**
Mineral identification / field guides **UQ 6200 - UQ 6240**
Mineral identification / physical-chemical measurements **UQ 6200 - UQ 6240**
Mineralogy **UQ 6000 - UQ 6040**
Mineralogy / bibliographies **UB 1056**
Mineralogy / conferences **UQ 1100 - UQ 1199.99**
Mineralogy / dictionaries **UB 1460**
Mineralogy / history **UB 2460**
Mineralogy / personal bibliographies **UB 2060**
Mira (star) **US 5200**
Mirror (reflecting) telescopes **US 1480**
Mode coupling / lasers **UH 5680**
Molecular beams **UM 5000**
Molecular clouds **US 3300**
Molecular dynamics / correlation times **UM 3150**
Molecular masses **UM 3120**
Molecular models **UM 1000**
Molecular physics **UM 3000**
Molecular physics / bibliographies **UB 1088**
Molecular physics / dictionaries **UB 1440**
Molecular physics / history **UB 2440**
Molecular physics / instruments / methods **UM 3100**
Molecular physics / personal bibliographies **UB 2040**
Molecular physics / popularisations **UB 5140**
Molecular spectra **UM 3200**
Molecular spectra / band strength **UM 4250**
Molecular spectra / Franck-Condon principle **UM 4250**
Molecular spectra / lifetime / measurements / excited states **UM 4300**
Molecular spectra / oscillator strength **UM 4250**
Molecular spectra / spectral bands **UM 4200**
Molecular spectra / spectral lines **UM 4200**
Molecular spectra / transition moments **UM 4250**
Molecular structure / spectroscopy **UM 3200**
Molecular symmetry **UM 3110**
Molecular-weight determination / polymers **UV 2500**
Molecules / core binding energy **UM 4500**
Molecules / electric moments **UM 3130**
Molecules / magnetic moments **UM 3130**
Molecules / magnetic susceptibility **UM 3140**
Molecules / photoionisation **UM 4500**
Molecules / polarisability **UM 3140**
Molten salts **UQ 2120**
Moon **US 8300**
Moon / atlases **US 8325**
Moon / geology (selenology) **US 8340**
Moon's surface **US 8320**
Morphology / galaxies **US 3100**
Morphology / polymers **UV 3200**
Mossbauer effect / solids **UP 9500**
Mossbauer spectroscopy **UP 9500**
Mossbauer spectrum **UP 9500**
MO theory / polymers **UV 5300**
Multiphoton processes **UH 5690**
Multiphoton processes / absorption **UH 5690**
Multiphoton processes / atomic physics **UM 2550**
Multiple resonance **UM 3800**

Multiple scattering **UO 2760**
Multipole transitions / level energy / nuclear-nuclear collision **UN 2060**
Muon capture / by nuclei **UN 2100**
Muon scattering **UN 3050**
Muons **UO 6330**

N

Nautical / astronomy **US 1900**
Nebula / astronomy **US 3300**
Nebula / astronomy **US 3400**
Neptune (Planet) **US 8650**
Neutral current / weak interaction / elementary particles **UO 5120**
Neutrino / interactions **UO 5140**
Neutrino scattering **UN 3060**
Neutrinos **UO 6340**
Neutron diffraction **UP 2000**
Neutron diffraction / crystal structure determination **UQ 5550**
Neutron physics **UP 2000**
Neutron scattering **UP 2000**
Neutron sources **UN 6430**
Neutron spectroscopy **UP 2000**
Neutron stars **US 4950**
Neutrons **UO 6110**
NMR spectroscopy **UP 9400**
NMR tomography **UP 9410**
Noise abatement **UF 6900**
Noise / fluctuations **UG 3700**
Noise / lasers **UH 5695**
Nomenclature / physics **UB 1015**
Nonlinear optics **UH 5690**
Nonlinear plasma theory **UR 8500**
Nonlinear theory / quantum field theory **UO 4040**
Non-stoichiometry / crystallography **UQ 2460**
Nova **US 4500**
Nuclear decay **UN 2000**
Nuclear electronics **UN 7300**
Nuclear emulsions **UN 7270**
Nuclear energy **UN 5000**
Nuclear energy levels *cf.* nuclear levels
Nuclear explosions **UN 5600**
Nuclear fission **UN 3500**
Nuclear force / mesons **UN 1410**
Nuclear force / phenomenological theory **UN 1420**
Nuclear fusion **UR 9000**
Nuclear levels **UN 1200**
Nuclear magnetic relaxation **UM 3500**
Nuclear magnetic resonance (NMR) **UM 3500**
Nuclear masses / binding energy **UN 1200**
Nuclear matter **UN 1580**
Nuclear photoeffect **UN 3540**
Nuclear photoprocess **UN 3020**
Nuclear physics **UN 1000**
Nuclear physics / bibliographies **UB 1050**
Nuclear physics / dictionaries **UB 1445**
Nuclear physics / exercises **UN 1050**
Nuclear physics / experiments / methods / equipment **UN 6000**
Nuclear physics / history **UB 2445**
Nuclear physics / personal bibliographies **UB 2045**
Nuclear physics / popularisations **UB 5160**
Nuclear physics / tables **UN 1070**
Nuclear physics / textbooks **UN 1000**
Nuclear power plants **UN 5360**

Nuclear quadrupole resonance (NQR) UM 3600
Nuclear reactions UN 2500
Nuclear reactions / Born approximation UN 2530
Nuclear reactions / many-body theory UN 2520
Nuclear reactions / models UN 2510
Nuclear reactions / nuclear photoeffect UN 3020
Nuclear reactions / nuclear scattering UN 2595
Nuclear reactions / optical model UN 2540
Nuclear reactions / polarisation UN 2580
Nuclear reactor safety UN 5220
Nuclear reactor technology UN 5100
Nuclear reactor technology / ancillary generators / electric operation UN 5350
Nuclear reactor technology / cooling / thermal recycling UN 5120
Nuclear reactor technology / desalination UN 5370
Nuclear reactor technology / operation UN 5200
Nuclear reactor technology / waste disposal UN 5240
Nuclear reactor types UN 5300
Nuclear scattering UN 2500
Nuclear scattering / models UN 2510
Nuclear scattering / nuclear reactions UN 2595
Nuclear structure UN 1200
Nuclear structure / models UN 1500
Nuclear structure / models / droplet model (liquid-drop model) UN 1520
Nuclear structure / models / Hartree-Fock approximation UN 1550
Nuclear structure / spectroscopy UN 1240
Nuclear technology UN 5000
Nuclei / electron capture / muon capture UN 2100
Nuclei / lepton decays / weak interaction UN 2110
Nuclei / nuclear matrix elements / weak interaction UN 2110
Nuclei / properties UN 4000
Nuclei / weak interactions UN 2000
Nucleon-antinucleon interactions UO 5312
Nucleon-nucleon interactions / mesons UN 1410
Nucleon-nucleon interactions / phenomenological theory UN 1420
Nucleon-nucleon scattering UN 2000
Nucleosynthesis US 3600
Numerical methods / astronomy US 1550

O

Objectivity / quantum mechanics UB 8500
Observatory US 1450
Observatory / astronomy US 1450
Occupational safety / physics UB 4150
Ocean / -atmosphere interactions UT 4800
One-dimensional conductor UP 5050
One-over-f noise UG 3700
Oort cloud US 8750
Operator algebras / quantum mechanics UK 3000
Optical astronomy US 1500
Optical bistability UH 5690
Optical computers UH 7500
Optical data storage UH 7500
Optical illusions UH 7200
Optical instruments UH 6700
Optical model / hadrons UO 5390
Optical model / nuclear reactions / nuclear scattering UN 2540
Optical model / strong interaction UO 5390
Optical pumping UH 5665
Optical signal processing UH 7500
Optics UH 5000
Optics / bibliographies UB 1040
Optics / conferences UH 5100

Optics / dictionaries **UB 1420**
Optics / exercises **UH 5050**
Optics / history **UB 2420**
Optics / information processing / Eye **UH 7200**
Optics / personal bibliographies **UB 2020**
Optics / popularisations **UB 5080**
Optics / tables **UH 5070**
Opto-acoustic effect **UH 5715**
Opto-acoustic infrared spectroscopy **UH 6020**
Opto-acoustic spectroscopy **UH 5715**
Opto-acoustics **UF 5715**
Opto-acoustics **UH 6300**
Opto-electronic / signal processing **UH 5755**
Opto-electronic devices **UH 5765**
Orbit **US 1250**
Orbit / satellite **US 1250**
Orbit / satellite / planetary moons **US 1250**
Orbital elements **US 1250**
Order-disorder models **UG 3100**
Organic materials **UQ 8300**
Oscillating-field accelerators **UN 6100-6250**
Oscillations **UF 5100**
Oscillations / waves **UF 5000**
Oscillator strength / atomic spectra **UM 2350**
Oscillator strength / molecular spectra **UM 4250**
Outer planets **US 8750**

P

Pair production
Paramagnetism **UP 6200**
Parity <Physics> / elementary particle / symmetry properties **UO 1520**
Parity <Physics> / nuclear structure / nuclear properties **UN 1230**
Particle acceleration / astrophysics **US 3600**
Particle accelerators / electrostatic **UN 6100**
Particle accelerators / elementary-particle physics **UN 6100**
Particle-beam optics **UH 6200**
Particle beams *cf.* corpuscular beams
Particle size / measurement **UT 9100 - UT 9250**
Particles <Physics>
Path model / quantum mechanics **UK 4500**
Permeation / polymers **UV 2600**
Perpetuum mobile (perpetual-motion machines) **UB 4020**
Personal bibliographies / physicists **UB 1710**
Perturbation theory **UO 2000**
Phase conjugation **UH 5680**
Phase diagrams / ceramic materials **UQ 8520**
Phase diagrams / structural chemistry / crystal chemistry **UQ 3300**
Phase transitions **UG 3800**
Philosophy / physics **UB 6000**
Philosophy / quantum mechanics **UB 7000**
Phonons / atoms **UM 2400**
Phonons / lattice dynamics **UP 1500**
Phonons / phase transitions **UG 3800**
Phonons / polymers **UV 5300**
Phosphorescence **UH 5860**
Phosphorescence / luminescence **UH 5800**
Phosphorescence / polymers **UV 5500**
Photoacoustic effect *cf.* opto-acoustic effect
Photodissociation **UM 4500**
Photoeffect **UP 8200**
Photoeffect / quantum mechanics **UK 7800**
Photoelasticity **UF 3300**

Photoelasticity / polymers **UV 5400**
Photoelectron spectra **UM 4000**
Photoemission **UP 5450**
Photographic apparatus *cf.* cameras
Photography **UH 7000**
Photo-Hall effect **UP 5110**
Photoionisation / atoms **UM 2520**
Photoionisation / molecules **UM 4500**
Photoluminescence **UH 5810**
Photon-photon interaction **UP 3720**
Photons **UO 6440**
Photons / atoms **UM 2400**
Photons / spin waves **UP 3720**
Photonuclear reaction *cf.* nuclear photoeffect
Photoresistance **UP 5300**
Physics / education **UB 4050**
Physics education / curricula **UB 4050**
Physics / evaluation of experiments / schools **UB 4053**
Physics / history / bibliographies **UB 1031**
Physics instruction / didactics **UB 4056**
Physics / nomenclature **UB 1015**
Physics / philosophy **UB 6000**
Physiological acoustics **UF 6800**
Physiological optics **UH 7200**
Picosecond range / lasers **UH 5618**
Picosecond spectroscopy **UH 5710**
Piezoelectric effect **UP 4900**
Piezoelectricity / polymers **UV 5100**
Pion-nucleon interactions **UO 5315**
Pion-nucleon scattering **UN 3410**
Planetary atmosphere **US 8030**
Planetary nebula **US 4750**
Planetary system **US 7400**
Planetary system / dynamics **US 7500**
Planetary system / dynamics **US 8000**
Planetary system / evolution **US 7400**
Planetary system / formation **US 7400**
Planetary system / formation **US 8000**
Planetoids **US 8420**
Planetoids **US 8750**
Planets **US 8000**
Planets / magnetosphere **US 8040**
Plasma diagnostics **UR 8200**
Plasma physics **UR 8000**
Plasma physics / astrophysics **US 3500**
Plasma physics / bibliographies **UB 1058**
Plasma physics / dictionaries **UB 1470**
Plasma physics / history **UB 2470**
Plasma physics / lasers **UH 5770**
Plasma physics / personal bibliographies **UB 2070**
Plasma physics / popularisations **UB 5240**
Plasma waves **UR 8300**
Plasmons **UP 3740**
Plasticisers / polymers **UV 9270**
Plasticity **UF 3100**
Plasticity / crystals **UQ 4100**
Plasticity / polymers **UV 4000**
Plastics / corrosion **UV 2890**
Plastics, electroplating **UV 7200**
Pluto / dwarf planet **US 8700**
Poincaré invariant / elementary-particle physics **UO 1510**
Point defects / crystal growth **UQ 2400**
Point defects / lattice defects / theory **UP 2100**

Polarisability / atoms **UM 2140**
Polarisability / molecules **UM 3140**
Polarisability / polymers **UV 5100**
Polarisation / lasers **UH 5680**
Polarisation microscopy / crystals **UQ 4500**
Polarisation microscopy / polymers **UV 5400**
Polarisation / physical optics **UH 5400**
Polarisation, plane of / rotation **UH 5500**
Polarisation / radioactive radiation / particle emissions **UN 7350**
Polarised light **UH 5350**
Polaritons **UP 3720**
Polarons **UP 3725**
Polishing / crystal surfaces **UQ 2800**
Polycrystalline semiconductors **UP 3160**
Polymer blends **UV 9240**
Polymer crystals / physical properties **UV 3100**
Polymer crystals / structure **UV 3100**
Polymer melt **UV 3200**
Polymer mixtures **UV 9240**
Polymer physics *cf.* polymers / physics
Polymer solutions / thermodynamics **UV 2800**
Polymeric semiconductors **UV 9550**
Polymers / acoustic behaviour **UV 4600**
Polymers / adhesion **UV 7100**
Polymers / ageing **UV 2900**
Polymers / breakage processes **UV 4300**
Polymers / caloric behaviour **UV 6000**
Polymers / characterisation / identification **UV 2400**
Polymers / coating **UV 7200**
Polymers / cohesion **UV 7100**
Polymers / colouration **UV 8000**
Polymers / colourimetry **UV 8000**
Polymers / composite systems / micromechanics **UV 4400**
Polymers / configuration / spectroscopy **UV 2300**
Polymers / conformation / statistics **UV 2200**
Polymers / constitution / chemical configuration **UV 2200**
Polymers / continuum mechanics **UV 4000**
Polymers / crystal growth **UV 3600**
Polymers / crystallisation **UV 3200**
Polymers / dielectric absorption **UV 5100**
Polymers / dielectric breakdown **UV 5100**
Polymers / dielectric properties **UV 5100**
Polymers / dielectric relaxation **UV 5100**
Polymers / diffusion **UV 2600**
Polymers / dispersion **UV 9300**
Polymers / double refraction **UV 5400**
Polymers / durability **UV 2900**
Polymers / elasticity **UV 4100**
Polymers / electrical conductivity **UV 5200**
Polymers / electrical properties **UV 5000**
Polymers / electron microscopy **UV 3300**
Polymers / electroplating **UV 7200**
Polymers / electrostatic charging **UV 5100**
Polymers / ferroelectricity **UV 5100**
Polymers / fluorescence **UV 5500**
Polymers / glass temperature **UV 3500**
Polymers / high-temperature durability **UV 9400**
Polymers / interface phenomena **UV 7000**
Polymers / intermolecular forces **UV 2700**
Polymers / low-temperature behaviour **UV 4500**
Polymers / luminescence **UV 5500**
Polymers / materials **UV 9000**
Polymers / materials / technology **UV 9900**

Polymers / mechanics / properties **UV 4100**
Polymers / metallic properties **UV 9560**
Polymers / molecular-weight determination **UV 2500**
Polymers / molecular-weight distributions **UV 2500**
Polymers / morphology **UV 3300**
Polymers / optical properties **UV 5000**
Polymers / permeation **UV 2600**
Polymers / phonons **UV 5300**
Polymers / phosphorescence **UV 5500**
Polymers / physics **UV 1000**
Polymers / physics / bibliographies **UB 1065**
Polymers / physics / conferences **UV 1100 - UV 1199.99**
Polymers / physics / dictionaries **UB 1487**
Polymers / physics / exercises **UV 1050**
Polymers / physics / history **UB 2487**
Polymers / physics / personal bibliographies **UB 2088**
Polymers / physics / popularisations **UB 5290**
Polymers / physics / tables **UV 1070**
Polymers / physics / textbooks **UV 1000**
Polymers / piezoelectricity **UV 5100**
Polymers / plasticisers **UV 9270**
Polymers / plasticity **UV 4100**
Polymers / polarisability **UV 5100**
Polymers / polarisation microscopy **UV 5400**
Polymers / preparation **UV 3600**
Polymers / relaxation **UV 4100**
Polymers / retardation **UV 4100**
Polymers / rotation potential **UV 2700**
Polymers / rubber elasticity **UV 4200**
Polymers / shrinking **UV 4100**
Polymers / small angle X-ray scattering (SAXS) **UV 3400**
Polymers / solid / thermodynamics **UV 6000**
Polymers / solvents **UV 9270**
Polymers / sound insulation **UV 4600**
Polymers / stabilisation **UV 2900**
Polymers / surface wetting **UV 7100**
Polymers / swelling / thermodynamics **UV 2800**
Polymers / synthesis / reactions **UV 2100**
Polymers / thermal behaviour **UV 6000**
Polymers / transport **UV 2600**
Polymers / vibrons **UV 5300**
Polymers / viscosity **UV 2600**
Polymers / water solubility **UV 9350**
Polymorphism / crystals **UQ 3400**
Polytypism / crystals **UQ 3400**
Popularisations / natural sciences **UB 5000**
Popularisations / physics **UB 5020**
Position determination / astronomy **US 1810**
Positron annihilation *cf.* electron-positron annihilation
Positrons **UO 6320**
Positrons / scattering **UN 3040**
Potential <Physics> / model / hadrons **UO 5400**
Potential <Physics> / model / strong interaction **UO 5400**
Powder metallurgy **UQ 7520**
Powder method / crystal structure analysis **UQ 5400**
Power reactors **UN 5330**
Practical laboratory – teaching laboratories / physics **UC 400**
Predissociation **UM 4500**
Primary energy **UX 2000**
Primordial nucleosynthesis **US 2500**
Professional education / physicists **UB 4052**
Propulsion reactor **UN 5340**
Proton scattering / nuclear reactions **UN 3110**

Protons **UO 6120**
Protuberances **US 6600**
Proximity effect **UP 1420**
Pseudospin **UG 2000**
Pulsars **US 4950**
Pulsars **US 5200**
Pulsating variables **US 5200**

Q

Q-factor modulation / lasers **UH 5680**
Quantum chaos **UK 7600**
Quantum chromodynamics **UO 5700**
Quantum chromodynamics / applications **UO 5740**
Quantum chromodynamics / field theory **UO 5730**
Quantum cosmology **US 2400**
Quantum electrodynamics **UO 5600**
Quantum electronics **UH 5600**
Quantum electronics / bibliographies **UB 1040**
Quantum electronics / conferences **UH 5100**
Quantum electronics / dictionaries **UB 1420**
Quantum electronics / personal bibliographies **UB 2020**
Quantum electronics / popularisations **UB 5080**
Quantum field theory **UO 4000**
Quantum field theory / asymptotic method **UO 4030**
Quantum field theory / axiomatic representation **UO 4010**
Quantum field theory / bound state **UO 4080**
Quantum field theory / Lagrange-Hamilton formulation **UO 4020**
Quantum field theory / nonlinear theory **UO 4040**
Quantum field theory / relativistic wave equation **UO 4070**
Quantum field theory / renormalisation **UO 4020**
Quantum field theory / Schwinger model **UO 4050**
Quantum field theory / unstable state **UO 4080**
Quantum gravitation **US 2400**
Quantum Hall effect **UP 5110**
Quantum liquids **UR 2000**
Quantum mechanics **UK 1000**
Quantum mechanics **UK 7800**
Quantum mechanics / angular momentum **UK 3500**
Quantum mechanics / approximations **UK 4000**
Quantum mechanics / bibliographies **UB 1044**
Quantum mechanics / conferences **UK 1100 - UK 1199.99**
Quantum mechanics / dictionaries **UB 1430**
Quantum mechanics / exercises **UK 1050**
Quantum mechanics / group theory **UK 3000**
Quantum mechanics / history **UB 2430**
Quantum mechanics / many-body systems **UL 1000**
Quantum mechanics / measurement process **UK 1250**
Quantum mechanics / objectivity **UB 8500**
Quantum mechanics / operator algebra **UK 3000**
Quantum mechanics / personal bibliographies **UB 2030**
Quantum mechanics / philosophy **UB 7000**
Quantum mechanics / popularisations **UB 5100**
Quantum mechanics / scattering **UK 7500**
Quantum mechanics / source corrections **UK 1300**
Quantum mechanics / textbooks **UK 1000**
Quantum optics **UH 5600**
Quantum optics / bibliographies **UB 1040**
Quantum optics / conferences **UH 5100**
Quantum optics / dictionaries **UB 1420**
Quantum optics / history **UB 2420**
Quantum optics / personal bibliographies **UB 2020**
Quantum optics / popularisations **UB 5080**

Quantum statistics **UG 4000**
Quantum statistics / many-body methods **UL 2000**
Quantum trough *cf.* quantum well
Quantum well **UP 3150**
Quark-gluon plasma **UO 5720**
Quarks <Physics> / symmetry / phenomenology **UO 5710**
Quasars **US 3420**
Quasicrystals **UQ 8750**
Quasiparticles / solid-state physics **UP 3700**
Quasiparticles / solid-state physics / interactions **UP 3700**

R

Radiation capture *cf.* capture processes
Radiation damage / crystals **UQ 2410**
Radiation damage / materials **UQ 2410**
Radiation damage / metals **UQ 7380**
Radiation detectors **UN 7200**
Radioactive radiations / detection / measurement **UN 7000**
Radioactive radiations / detector circuits / nuclear electronics **UN 7300**
Radioactive radiations / detectors **UN 7290**
Radioactive radiations / particle emission / angular correlation measurement **UN 7310**
Radioactivity **UN 1900**
Radio astronomy **US 1640**
Radiofrequency / atomic physics **UM 2220**
Radiofrequency / communications technology **UX 2500**
Radiofrequency / molecular physics **UM 3220**
Radiofrequency / radio astronomy **US 1640**
Radio galaxy **US 3420**
Radiological protection **UN 7900**
Radioluminescence **UH 5820**
Radio telescope **US 1640**
Radon transformation **UH 5420**
Raman effect **UH 5715**
Raman spectroscopy **UM 3300**
Raman spectroscopy / solids **UP 9200**
Raman spectrum / molecular physics **UM 3300**
Rayleigh spectrum / molecular physics **UM 3400**
Rayleigh waves **UH 3000**
Reactor safety
Reactor technology
Reciprocal noise *cf.* one-over-f noise
Red dwarf **US 4800**
Red giant **US 4700**
Red shift **US 3460**
Reflection <Physics> **UH 5320**
Regge poles / elementary particles **UO 2820**
Regge poles / hadrons **UO 5420**
Regge poles / strong interaction **UO 5420**
Regge theory / elementary particles **UO 2820**
Relativistic effects / electron shells **UM 1300**
Relativistic heavy-ion scattering **UO 2750**
Relativistic heavy-ion scattering / Faddeev equation **UO 2750**
Relativistic quantum mechanics **UK 1400**
Relativistic wave equation / quantum field theory **UO 4070**
Relativity theory / bibliographies **UB 1040**
Relativity theory / dictionaries **UB 1420**
Relativity theory / history **UB 2420**
Relativity theory / personal bibliographies **UB 2020**
Relativity theory / popularisations **UB 5080**
Relaxation **UG 2000**
Relaxation / polymers **UV 4100**
Remote sensing **UH 7600**

Renormalisation / quantum field theory **UO 4020**
Research planning / physics **UB 4010**
Research programmes / physics **UB 1027**
Research reactors **UN 5310**
Resins / polymers **UV 9100**
Resonance / elementary particles **UO 6000**
Resonant scattering / nuclear reactions **UN 2590**
Retardation / polymers **UV 4100**
Rheology **UF 3500**
Rigid body / mechanics **UF 1200**
Rigid body / statics **UF 1200**
Ring accelerator **UN 6150**
Rocket technology **US 9500**
Rotation potential / polymers **UV 2700**
Rotational motion **UK 3500**
RR-Lyra stars **US 5200**
Rubber **UV 9150**
Rubber elasticity / polymers **UV 4200**
Ruby laser **UH 5615**

S

Satellites **US 9000**
Satellites / orbit **US 1250**
Satellites / planetary moons / orbit **US 1250**
Saturation spectroscopy **UH 5710**
Saturn <Planet> **US 8550**
Scanning-probe microscopy **UH 6320**
Scattering / electromagnetic waves **UH 5300**
Scattering matrix *cf.* S-matrix
Scattering / medium-energy physics **UN 3430**
Scattering / quantum mechanics **UK 7500**
Scattering theory **UO 2000**
Schlieren method **UF 6300**
Schwinger model / quantum field theory **UO 4050**
Scintillation detectors **UN 7260**
Self-induced transparency **UH 5700**
Self-organising systems **UG 3900**
Semiconductor detector **UP 3100**
Semiconductor laser **UH 5616**
Semiconductor layer **UP 7570**
Semiconductor physics **UP 2800**
Semiconductor theory **UP 2800**
Semiconductors / ion implantation **UP 3000**
Semiconductors / optical properties **UP 3050**
Semiconductors / polymers **UV 9550**
Semiconductors / radiation damage **UP 3250**
Semiconductors / transport process **UP 3200**
Semileptonic decay / mesons / weak interaction **UO 5150**
Separation process **UN 5510**
SETI **US 9600**
SETI **US 9800**
Seyfert galaxy **US 3420**
Shell model / nuclear physics **UN 1510**
Shock wave / gas **UR 5550**
Shrinkage / polymers **UV 4100**
Shubnikov-de-Haas effect **UP 4100**
Signal processing / optical / information theory **UH 7500**
Signal processing / opto-electronic **UH 5755**
Single-particle level **UN 1270**
Sky survey **US 1850**
S-matrix / perturbation theory **UO 2000**
S-matrix theory **UO 2000**

Solar corona **US 6300**
Solar energy **UX 2000**
Solar plasma **US 6300**
Solar radiation **US 6200**
Solar System **US 6000**
Solar System / dynamics **US 8000**
Solar System / evolution **US 8000**
Solar System / formation **US 8000**
Solar wind **US 6700**
Sol-gel optics **UH 6700**
Solid electrolytes **UP 5070**
Solidification / melting **UQ 2100**
Solid-liquid interface **UP 7620**
Solids / dielectric properties **UP 4600**
Solids / diffusion **UP 5070**
Solids / electrical properties **UP 4500**
Solids / external fields **UP 4500**
Solids / heat conductivity **UP 5200**
Solids / infrared spectroscopy **UP 9100**
Solids / ion transport **UP 5070**
Solids / light scattering **UP 9000**
Solids / mechanical properties **UQ 8025**
Solids / optical interactions **UP 8000**
Solids / optical properties **UP 8000**
Solid-state electronics **UP 3600**
Solid-state lasers **UH 5615**
Solid-state physics **UP 1000**
Solid-state physics / bibliographies **UB 1054**
Solid-state physics / conferences **UP 1100 - UP 1199.99**
Solid-state physics / dictionaries **UB 1455**
Solid-state physics / exercises **UP 1050**
Solid-state physics / group theory **UP 1200**
Solid-state physics / history **UB 2455**
Solid-state physics / mathematical methods **UP 1300**
Solid-state physics / personal bibliographies **UB 2055**
Solid-state physics / popularisations **UB 5200**
Solid-state physics / textbooks **UP 1000**
Solid-state physics / UV-spectroscopy **UP 9150**
Solid-state plasma **UP 3650**
Solid-state spectroscopy **UP 9000**
Solitons / lasers **UH 5618**
Solvents / crystallisation **UQ 2140**
Solvents / polymers **UV 9270**
Solvents / polymers / thermodynamics **UV 2800**
Sound waves / dispersion <Waves> **UF 6200**
Space flight **US 9400**
Space-flight policy **US 9000**
Space policy **US 9000**
Space probes **US 9000**
Space programmes **US 9000**
Space research **US 9000**
Space-time singularity **US 2300**
Space-time singularity **US 2500**
Space-time universe **UB 7500**
Spark chamber **UN 7240**
Specific mineralogy **UQ 6100 - UQ 6110**
Speckles **UH 5695**
Spectral band / molecular spectrum **UM 4200**
Spectral hole-burning **UH 5712**
Spectral lines / atoms **UM 2350**
Spectral lines / intensity / atoms **UM 2350**
Spectral lines / molecular spectrum / shape / intensity **UM 4200**
Spectroscopy / astronomy **US 1550**

Spectroscopy / molecular structure **UM 3200**
Spectroscopy / particle beams **UN 6700**
Spherical astronomy **US 1770**
Spin / elementary particles **UO 2800**
Spin / fluctuations **UP 6700**
Spin / nuclear structure **UN 1230**
Spinglass **UP 6800**
Spin-lattice relaxation **UP 6700**
Spin relaxation **UG 2000**
Spin temperature **UP 6700**
Spin waves **UP 6700**
Spiral galaxy **US 3100**
Spontaneous fission **UN 3510**
Spontaneous nuclear fission *cf.* spontaneous fission
Spontaneous symmetry breaking / elementary particles **UO 1570**
Star clusters **US 3100**
Star clusters **US 3400**
Star formation, region of **US 3300**
Star systems / dynamics **US 3100**
Stark effect **UM 2300**
Stars / atlas **US 1850**
Stars / catalogues **US 1850**
Statics / rigid bodies **UF 1200**
Statistical hydrodynamics **UF 4050**
Statistical mechanics **UG 3100**
Statistical optics **UH 5695**
Statistical physics / bibliographies **UB 1038**
Statistical physics / dictionaries **UB 1415**
Statistical physics / history **UB 2415**
Statistical physics / personal bibliographies **UB 2015**
Statistical physics / popularisations **UB 5060**
Statistical thermodynamics **UG 3500**
Stellar atmosphere **US 4200**
Stellar dynamics **US 3100**
Stellar evolution **US 4000**
Stellar interior **US 4100**
Stellar rotation **US 4300**
Stellar spectroscopy **US 4000**
Stellar spectroscopy **US 4040**
Stellar structure **US 4000**
Stereochemistry / molecular physics **UM 3110**
Stimulated Brillouin scattering **UH 5690**
Stimulated Raman effect **UH 5690**
Stimulated Raman scattering *cf.* stimulated Raman effect
Storage rings **UN 6250**
Stratosphere **UT 5250**
String theory **US 2400**
Strong interaction / absorption / model **UO 5390**
Strong interaction / bootstrap hypothesis **UO 5350**
Strong interaction / dual model **UO 5360**
Strong interaction / eikonal / model **UO 5390**
Strong interaction / optical model **UO 5390**
Strong interaction / particle exchange **UO 5410**
Strong interaction / phenomenology **UO 5300**
Strong interaction / potential <Physics> / model **UO 5400**
Strong interaction / Regge poles **UO 5420**
Strong interaction / statistics **UO 5340**
Strong interaction / theory *cf.* quantum chromodynamics
Structural chemistry **UQ 3000**
SU-2 symmetry / elementary particles **UO 1530**
SU-3 symmetry / elementary particles **UO 1530**
SU-4 symmetry / elementary particles **UO 1540**
Submillimetre waves / wave tubes **UH 5950**

Sum rule / dispersion relations **UO 2640**
Sun **US 6000**
Sun **US 6100**
Sun / magnetic field **US 6500**
Sunspots **US 6530**
Supercluster **US 3440**
Superconductivity **UP 2200**
Superheavy elements *cf.* trans-actinides
Superlattice **UP 3150**
Supernova **US 4600**
Supernova remnants **US 3300**
Superstring theory **UO 4065**
Supersymmetry / elementary particles **UO 1560**
Surface waves **UH 3000**
Swelling / polymers / thermodynamics **UV 2800**
Symmetry / crystallography **UQ 1300**
Synchrotrons **UN 6190**
Synergetics **UG 3900**
Synoptic meteorology *cf.* synoptics
Synoptics **UT 8200**
System of units **UX 1200**

T

Tachyons **UO 6450**
Target **UN 6400**
Technical acoustics **UF 6900**
Technical mechanics **UF 1500**
Technical mineralogy **UQ 6800**
Telescopes **US 1480**
Temperature measurement / lasers **UH 5740**
Tera-electron volt range / astronomy **US 1670**
Textbooks / physics / technical colleges / adult education **UB 4071**
Texture / metals **UQ 7340**
Thermal infrared detectors **UH 5960**
Thermal radiation **UG 2800**
Thermodynamics **UG 1000**
Thermodynamics / bibliographies **UB 1038**
Thermodynamics / collections of articles **UG 1050**
Thermodynamics / conferences **UG 1100 - UG 1199.99**
Thermodynamics / dictionaries **UB 1415**
Thermodynamics / history **UB 2415**
Thermodynamics of irreversible processes **UG 2000**
Thermodynamics / personal bibliographies **UB 2015**
Thermodynamics / popularisations **UB 5060**
Thermodynamics / tables **UG 1070**
Thermodynamics / technical applications **UG 1200**
Thermoelasticity **UF 3200**
Thermoelectric effect **UP 5100**
Thermoelectricity **UP 5400**
Thermomagnetic effect **UP 5100**
Thermonuclear reactions / astrophysics **US 3600**
Thermoplastic **UV 9150**
Thermostatistics *cf.* statistical thermodynamics
Thin-film technology **UP 7550**
Thin films **UP 7500**
Thin films / conductivity **UP 7750**
Thin films / magnetism **UP 6400**
Thin films / optical properties **UP 7800**
Three-body problem **UL 5000**
Thyristor / triggering **UH 5790**
Time **UB 7500**
Time measurement **US 1800**

Time resolution / spectroscopy **UH 5710**
Time reversal / elementary-particle physics / symmetry **UO 1520**
Tomography / theory **UH 5420**
Torque **UK 3500**
Track chamber *cf.* track detectors
Track detectors **UN 7240**
Trans-actinides **UN 1800**
Transient lattice **UH 5705**
Transition metals / solid-state physics **UP 3400**
Transition probability / nucleon-nucleon interaction **UN 2020**
Transmission electron microscopy (TEM) **UH 6300**
Transport processes **UG 2300**
Transport processes / liquids **UR 1600**
Transport processes / semiconductors **UP 3200**
Triangulum nebula **US 3400**
Triboluminescence **UH 5840**
Tunnel effect **UP 1400**
Tunnelling spectroscopy **UP 1400**
Turbulent flow **UF 4300**

U

Ultracentrifuge **UN 5530**
Ultrasound **UF 6300**
Ultrasound / solid-state physics **UP 1800**
Ultrasound tomography **UF 6310**
Ultraviolet spectra / molecular physics **UM 3265**
Units <Physics> **UX 1200**
Universe / distance measurements **US 3460**
Universe / expansion **US 3460**
Universe / structure **US 3460**
Unstable state / quantum field theory **UO 4080**
Uranus <Planet> **US 8600**

V

Vacuum techniques **UX 1500**
Valence fluctuations **UP 3760**
Variable stars **US 5200**
Variational principle / relativistic heavy-ion scattering **UO 2730**
Vector meson dominance / hadrons **UO 5430**
Venus <Planet> **US 8150**
Viscosity / polymers **UV 2600**
Voigt effect **UH 5500**

W

Waste disposal / nuclear reactor technology **UN 5240**
Water solubility / polymers **UV 9350**
Wave equation / quantum field theory **UO 4070**
Wave guide **UH 3000**
Waves / oscillations **UF 5000**
Weak interaction / baryons / decay **UO 5190**
Weak interaction / elementary particles / model **UO 5110**
Weak interaction / elementary particles / phenomenology **UO 5100**
Weak interaction / gauge theory **UO 5510**
Weak interaction / leptonic decay **UO 5160**
Weak interaction / neutral current / elementary particles **UO 5120**
Weak interaction / neutrino interaction **UO 5140**
Weak interaction / nuclear **UN 2000**
Weak interaction / nuclear / energy-level transitions **UN 2010**
Weak interaction / nuclear / multipole transitions **UN 2060**
Weak interaction / theory **UO 5500**

Weak interaction / Weinberg-Salam theory **UO 5520**
Weinberg-Salam theory / weak interaction **UO 5520**
Wetting / polymers **UV 7100**
Whisker crystal **UQ 2180**
Whiskers **UQ 2180**
White dwarf **US 4900**
Wigner, Eugen *cf.* Wigner, Eugene Paul
Wigner, Eugene Paul **UB 2778**
Wind energy **UX 2000**
Wolf, Max **UB 2780**

X

XPS *cf.* X-ray photoelectron spectroscopy
X-radiation **UM 2280**
X-radiation / astronomy **US 1650**
X-ray astronomy **US 1650**
X-ray fluorescence analysis **UQ 5600**
X-ray lasers **UH 5638**
X-ray microscopy **UQ 5600**
X-ray photoelectron spectroscopy (XPS) **UP 9330**
X-ray radiography **UQ 5100**
X-ray small-angle scattering (SAXS) / polymers **UV 3400**
X-ray sources / binary stars **US 5000**
X-ray spectra **UM 2280**
X-ray spectra / molecular physics **UM 3280**
X-rays **UH 6400**

Y

Yang-Mills theory **UO 5730**

Z

Zeeman effect **UM 2300**
Zodiacal light **US 8910**