

Internal Report
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The HIGH ENERGY PHYSICS INDEX Keywords 1982

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Keywords by Subjects

This list contains only the regular keywords. Large-case headings and underscored terms in parantheses are not keywords. For standardized non-keywords the alphabetical list should be consulted.

<i>PARTICLES</i>	D ⁻	rho(770)
	D ⁰	rho(770) ⁺
	anti-D	rho(770) ⁻
<u>photon</u>	anti-D ⁰	rho(770) ⁰
		omega(783)
		eta(958)
<u>(leptons)</u>	<u>(nucleons)</u>	delta(980)
neutrino	p	S*(980)
neutrino/e/	anti-p	Phi(1020)
neutrino/mu/		A1(1100-1300)
neutrino/L/	n	epsilon(1300)
neutrino/tau/	anti-n	B(1235)
antineutrino		f(1270)
antineutrino/e/		D(1285)
antineutrino/mu/	<u>(hyperons)</u>	A2(1310)
antineutrino/L/	Lambda	E(1420)
antineutrino/tau/	Antilambda	f(1515)
		rho(1600)
electron		A3(1660)
positron	Sigma	omega(1670)
	Sigma ⁺	g(1700)
muon	Sigma ⁻	S(1935)
muon ⁺	Sigma ⁰	h(2040)
muon ⁻	Antisigma	K*(892)
	Antisigma ⁺	Q region
tau	Antisigma ⁻	Q1(1280)
tau ⁺	Antisigma ⁰	Q2(1400)
tau ⁻		K*(1430)
		kappa(1500)
<u>(mesons)</u>	Xi	L(1770)
	Xi ⁻	K*(1780)
	Xi ⁰	D*(2010)
	Antixi	
pi	Antixi ⁻	psi mesons
pi ⁺	Antixi ⁰	J/psi(3100)
pi ⁻		chi(3415)
pi ⁰		chi/PC(3510)
	Omega	chi(3550)
K	Antiomega ⁻	psi(3685)
K ⁺		psi(3770)
K ⁻	<u>(charmed baryons)</u>	psi(4030)
K ⁰	Lambda/c(2260)	psi(4160)
K ⁰ (L)	Sigma/c(2430)	psi(4415)
K ⁰ (S)		
anti-K		upsilon mesons
anti-K ⁰		Upsilon(9460)
	<u>(meson resonances)</u>	Upsilon(10020)
D		Upsilon(10400)
D ⁺	eta(549)	

(baryon resonances)

N(1470)
 N(1520)
 N(1535)
 N(1650)
 N(1670)
 N(1688)
 N(1700)
 N(1710)
 N(1810)
 N(1990)
 N(2190)
 N(2200)
 N(2220)
 N(2600)
 N(2650)
 N(3030)

Delta(1232)
 Delta(1232)⁺
 Delta(1232)⁺⁻
 Delta(1232)⁻
 Delta(1232)⁻⁻
 Delta(1232)⁰

Delta(1650)
 Delta(1670)
 Delta(1690)
 Delta(1890)
 Delta(1910)
 Delta(1950)
 Delta(1960)
 Delta(2160)
 Delta(2420)
 Delta(2850)
 Delta(3230)

Lambda(1405)
 Lambda(1520)
 Lambda(1670)
 Lambda(1690)
 Lambda(1800)
 Lambda(1815)
 Lambda(1830)
 Lambda(1860)
 Lambda(2100)
 Lambda(2110)
 Lambda(2350)
 Lambda(2585)

Sigma(1385)
 Sigma(1660)
 Sigma(1670)
 Sigma(1750)
 Sigma(1765)
 Sigma(1915)
 Sigma(1940)

Sigma(2030)
 Sigma(2250)
 Sigma(2455)
 Sigma(2620)

Xi(1530)
 Xi(1820)
 Xi(2030)

(other keywords)

particle
 antiparticle
 charged particle
 negative particle
 positive particle
 neutral particle
 new particle
 postulated particle
 mass enhancement
 search for

fermion
 antifermion

boson
 intermediate boson

lepton
 antilepton
 heavy lepton

hadron
 meson
 meson resonance
 axial-vector meson
 pseudoscalar meson
 scalar meson
 tensor meson
 vector meson
 baryonium
 baryon
 antibaryon
 nucleon
 antinucleon
 hyperon
 antihyperon
 baryon resonance
 nucleon resonance

strange particle
 strange baryon
 strange meson

charmed particle
 charmed baryon
 charmed meson

beautiful particle
 beautiful baryon
 beautiful meson

truthful particle
 truthful baryon
 truthful meson

colored particle

quark
 antiquark

gluon
 glueball

nucleus
 excited nucleus
 hyperfragment
 light nucleus
 deuterium
 deuteron
 tritium
 nuclide

atom
 positronium

*(for two-particle combinations
 see alphabetical list)*

PARTICLE PROPERTIES

charge
 electric moment
 isospin
 magnetic moment
 mass
 mass difference
 mass ratio
 parity
 quantum number
 B-L number
 baryon number
 electron number
 lepton number
 muon number
 spin
 helicity
 polarization

INTERACTIONS

gravitation

gravitational radiation

weak interaction

charged current

neutral current

electromagnetic interaction

bremstrahlung

Compton scattering

hyperfine structure

ionization

radiative correction

electroweak interaction

strong interaction

charge exchange

(other keywords)

absorption

backscatter

capture

decay

diffraction

diffusion

elastic scattering

emission

exchange

final-state interaction

fragmentation function

inclusive reaction

multiple production

 multiplicity

multiple scattering

potential scattering

production

recoil

scattering

INSTRUMENTS AND METHODS

(accelerators)

accelerator

 betatron

 cyclotron

 synchrocyclotron

linear accelerator

linear collider

microtron

storage ring

synchrotron

 electron synchrotron

 proton synchrotron

(internal and external beams)

aberration

beam

 beam cooling

 beam damping

 beam dynamics

 beam emittance

 beam focusing

 beam instability

 beam loading

 beam loss

 beam monitoring

 beam optics

 beam oscillation

 betatron oscillation

 synchrotron oscillation

 beam transport

 bunching

 ejection

 injection

 luminosity

 orbit

particle separator

particle source

synchrotron radiation

(track measuring)

bubble chamber

 bubble chamber(hydrogen)

 bubble chamber(deuterium)

 bubble chamber(heavy liquid)

drift chamber

nuclear emulsion

proportional chamber

spark chamber

streamer chamber

tracks

 track photography

counters and detectors

colliding beam detector

four-pi-detector

magnetic detector

spectrometer

 magnetic spectrometer

hodoscope

Cherenkov counter

ionization chamber

forward spectrometer

scintillation counter

semiconductor detector

shower detector

solid-state counter

total-absorption counter

(electronics and computers)

analog-to-digital converter

CAMAC system

computer

digital logic

electronics

fast logic

interface

microprocessor

preprocessing

programming

time-to-digital converter

trigger

(data analysis)

data analysis method

 amplitude analysis

 multidimensional analysis

 partial wave analysis

 statistical analysis

particle identification

track data analysis

(other keywords)

alignment

background

calibration

coil

control system

data acquisition

feedback

magnet

 bending magnet

 pulsed magnet

 quadrupole lens

measurement

monitoring

power supply

RF system

 microwaves

secondary radiation

shielding

superconducting

target

vacuum system

*THEORY OF PARTICLES
AND FIELDS*

field theory

axiomatic field theory
dual field theory
gauge field theory
grand unified theory
lattice field theory
quantum chromodynamics
quantum electrodynamics
quantum flavordynamics
quantum gravity
Reggeon field theory
unified field theory

Bethe Salpeter equation
expansion 1/d
expansion 1/N
Feynman graph
field equations
field theoretical model
gauge boson
light cone behavior
propagator
quantization
renormalization
renormalization group
scaling
supersymmetry

particle physics

bootstrap
current algebra
dispersion relations
duality
model
Regge poles
Regge cut
pomeron
spectral representation
Mandelstam representation
symmetry
hadron spectroscopy
mass formula
multiplet
symmetry breaking
unitarity

(other keywords)

conservation law
coupling
coupling constant
invariance
inverse scattering method
jet
n-point function
partial wave
S-matrix
scattering amplitude
scattering length
selection rule
spinor
sum rule
vertex function
violation

NUCLEAR PHYSICS

charge distribution
nuclear force
nuclear matter
nuclear model
nuclear physics
nuclear properties
nuclear reaction
fission
electrofission
photofission
fusion
radioactivity

GENERAL PHYSICS

angular distribution
angular momentum
astrophysics
atomic physics
binding energy
bound state
correction
correlation
angular correlation
correlation function

cosmic radiation
cross section
channel cross section
differential cross section
total cross section
current
density
dependence
effect
electromagnetic field
electric field
magnetic field
energy
energy levels
energy loss
excited state
final state
form factor
flux
fundamental constant
forces
interference
kinematics
many-body problem
three-body problem
matter
antimatter
mechanics
moment
momentum
longitudinal momentum
transverse momentum
momentum transfer
optics
perturbation theory
plasma
potential
quantum mechanics
radiation
secondary radiation
radiation length
relativity theory
resonance
showers
spectra
energy spectrum
mass spectrum
momentum spectrum
temperature
thermodynamics
threshold

OTHER FIELDS

mathematics

algebra
approximation
functional analysis
group theory
mathematical methods
numerical mathematics
statistics
transformation

(engineering)

buildings
communications
electrical engineering
heat engineering
 low temperature
mechanical engineering
nuclear engineering
power engineering
safety
 health physics
 dosimetry
 radiation protection
 shielding

chemistry

chemicals
compounds
 inorganic compounds
 organic compounds
ion

minerals

*(for elements see
alphabetical list)*

molecular biology

nuclear medicine

MATERIALS

alloy
ceramics
concrete

crystal
gas
glass
liquid
metal
plastics
rubber
semiconductor
solids
water

MODAL KEYWORDS

activity report
bibliography
book
conference
data compilation
lectures
manual
no keywords
proposed experiment
review
thesis

The terms in this keyword list are used by the DESY Documentation Service for the indexing of papers on high energy physics (beam energy above 100 MeV), quantum field theory, and accelerator and detector technology.

1. Purpose of Keywords Assignment

Our keywords serve the following purposes:

they allow the establishment of a subject index for the biweekly periodical HIGH ENERGY PHYSICS INDEX (HEP).

they make possible mechanized information retrieval and SDI (Selective Dissemination of Information) service at DESY and other high-energy physics centers.

The total keywords assigned to a paper may also be of some use as a sort of abstract.

2. Form of Keyword Assignment

Keywords may be used singly or coupled by comma and blanc (for example: 'field theory' (single) and 'field theory, nonabelian' (coupled)). While the first term is generally a regular keyword, the second term may be a keyword or a non-keyword. Regular keywords are shown in this list ordered by subject (page i) and ordered alphabetically (page 1).

Non-keywords which are frequently used are standardized; they are contained in the alphabetical list (see also point 10)

3. Classification

Beside of indexing the selected papers are classified with 16 topical fields, one main and any number of secondary fields. For example: Experimental papers on electroproduction of charmed particles are assigned to the main field ((E)) and the secondary field ((C)); books on field theory are assigned to the main field ((3)) and the secondary field ((Z)).

The 16 topical fields are the following:

I. Experimental Physics

- ((A)) general (also cosmic radiation, nuclear physics, and gravitational radiation)
- ((B)) weak interactions
- ((C)) electromagnetic interactions, photoproduction
- ((D)) strong interactions
- ((E)) charm, beauty, truth, and other new flavors

II. Instrumental Physics and Data Analysis Methods

- ((F)) accelerators
- ((G)) methods and detecting systems

III. Theoretical Physics

- ((T)) general (also mathematics, statistical mechanics, relativistic quantum mechanics, cosmic radiation, nuclear physics, and gravitational radiation)
- ((U)) weak interactions
- ((V)) electromagnetic interactions, photoproduction
- ((W)) strong interactions
- ((X)) charm, beauty, truth, and other new flavors
- ((Y)) symmetry principles (also current algebra)
- ((Z)) quantum field theory

IV. Monographs and Conference Proceedings

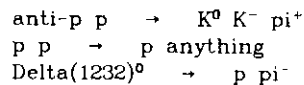
- ((3)) books
- ((4)) conferences

4. Two-Particle Combinations

Most of the combinations of any two particles (but not all) in the list are single regular keywords. These particles are arranged in order of rising masses, in case of same masses in order of charges: neutral particles before positive and negative - positive particles before negative ones.

5. Reaction Equations

Reactions of two particles or decay modes of a particle are given as in the following examples:



Particles on the left-hand side are arranged in the order of beam and target, particles on the right-hand side are arranged in the order of falling masses, in case of same masses in the order of positive charge - negative charge - neutral charge.

6. Other Particle Combinations

Three-particle combinations (non-keywords) succeeding keywords like 'vertex function' or 'coupling constant' or 'interference' are listed in the order of rising masses (for example: 'coupling constant, meson nucleon nucleon'). Final or intermediate states are also given if they are of importance; here the particles are listed in parentheses in the order of falling masses (for example: 'final state, (nucleon 2pi)' or 'mass spectrum, (pi⁺ pi⁻ pi⁰)').

7. Energy Declarations

Energy resp. momentum is given in the same way as in the paper, but always in GeV. Additionally papers are assigned to energy-ranges:

Range	E(cms) [GeV]	E(beam) [GeV] target: nucleon		
		beam: e ⁻ , photon, pi	beam: K	beam: p
((1))	0.0 - 3.0	0.1 - 4.35	0.1-4.2	0.1-3.88
((2))	- 10.0	- 52.93	- 52.80	- 52.46
((3))	- 30.0	- 479.59	- 479.45	- 479.12
((4))	- 100.0	- 5330.0	-5329.89	- 5329.55
((5))	> 100.0	> 5330.0	> 5329.89	> 5329.55

8. Resonances

Meson and baryon resonances are generally named as in the Particle Data Group Tables; charge states are indicated only for the rho(770) and the Delta(1232).

9. Depth of Indexing

Papers on peripheral topics will usually have fewer keywords per paper than papers on high energy physics. Examples of peripheral topics are quantum mechanics, statistical mechanics, gravitation, astrophysics, and nuclear physics with beam energy above 100 MeV/nucleon.

10. Alphabetical Keyword List

There are three kinds of entries in the alphabetical list:

regular keywords (boldface and blank space in column 1);

standardized non-keywords ("*" in column 1); these terms will generally occur as companions to regular keywords. There are also non-keywords which have not been standardized; they are not contained in this keyword list;

terms which are not used ("-" in column 1).

Comments or rules of use are given in parantheses. "Restricted use" means that a keyword is used only in cases where it is of central importance in the paper considered.

Entries are ordered in the following sorting sequence.

blank . (*) ; - / < > , ' aA...zZ 0...9

- Abelian field theory (field theory)
- aberration**
- absorption**
- absorptive correction ('correction, absorption'; used only for experimental correction)
- absorptive model (model, absorption)
- accelerator**
- *acceptance (e.g. 'spectrometer, acceptance' or 'accelerator, acceptance')
- *acoustic (spark chamber, acoustic)
- actinium**
- *action (restricted use; 'gauge field theory, action')
- action-at-a-distance (axiomatic field theory)
- activity report**
- ADC (analog-to-digital converter)
- *Adler (sum rule, Adler)
- Adler condition ('model, PCAC' and 'current algebra')
- Adler-Bell-Gross-Jackiw (current algebra)
- *Adler-Dashen-Gell-Mann-Fubini (sum rule, Adler-Dashen-Gell-Mann-Fubini)
- Adler-Weisberger relation ('model, PCAC' and 'current algebra')
- *admixture
- ADONE (Frascati Stor)
- *aerogel (Cherenkov counter, aerogel)
- *AFS (at CERN Stor; 'four-pi-detector, AFS')
- AGS (Brookhaven PS)
- *air (showers, air)
- algebra** (see also 'algebra, C*' or algebra, von Neumann' or 'algebra, Clifford' or 'algebra, Weyl' or 'algebra, Lie' or algebra, Grassmann')
- alignment** (see also 'polarization')
- alloy**
- alpha particle (helium)
- *Altarelli-Parisi equation (quantum chromodynamics, Altarelli-Parisi equation)
- aluminum**
- americium**
- *amplifier (RF system, amplifier)
- amplitude analysis**
- analog-to-digital converter**
- *analytic properties (restricted use)
- analyticity (analytic properties)
- *analyzing power (polarization, analyzing power)
- angular correlation**
- *angular dependence
- angular distribution**
- angular momentum**
- *angular resolution (e.g. 'scintillation counter, angular resolution')
- anharmonic oscillator (model, oscillator)
- *anisotropy (cosmic radiation, anisotropy)
- *annihilation
- *anomaly
- anti-D**
- anti-D0**
- anti-K**
- anti-K deuteron**
- anti-K light nucleus**
- anti-K n**
- anti-K nucleon**
- anti-K nucleus**
- anti-K p**
- anti-K0**
- anti-K0 deuteron**
- anti-K0 light nucleus**
- anti-K0 n**
- anti-K0 nucleon**
- anti-K0 nucleus**
- anti-K0 p**
- anti-n**
- anti-n deuteron**
- anti-n light nucleus**
- *anti-N N(1400-3600) (postulated particle, anti-N N(1400-3600))
- anti-n nucleus**
- anti-p**
- *anti-p atom
- anti-p deuteron**
- anti-p light nucleus**
- anti-p n**
- anti-p nucleon**
- anti-p nucleus**
- anti-p p**
- antibaryon**
- antifermion**
- antihyperon**
- Antilambda**
- antilepton**
- antimatter**
- antimony**
- antineutrino**
- antineutrino antineutrino**
- antineutrino baryon**
- antineutrino deuteron**
- antineutrino electron**
- antineutrino light nucleus**
- antineutrino meson**
- antineutrino muon**
- antineutrino n**
- antineutrino nucleon**
- antineutrino nucleus**
- antineutrino p**
- antineutrino quark**
- antineutrino/e/**
- antineutrino/L/** (heavy lepton antineutrino)
- antineutrino/mu/**
- antineutrino/tau/**
- antineutrino production (neutrino production)
- antineutron (anti-n)
- antinucleon**
- antinucleon deuteron**
- antinucleon light nucleus**
- antinucleon nucleus**
- *antinucleus
- Antiomega-**

antiparticle
 antiquark
 Antisigma
 Antisigma+
 Antisigma-
 Antisigma0
 Antixi
 Antixi-
 Antixi0
 *anything (only in reactions)
 *anything+ (only in reactions)
 *anything- (only in reactions)
 *anything0 (only in reactions)
 approximation
 -Argand plot (partial wave analysis)
 argon
 *Argonne PS
 *ARGUS (at DESY DORIS II Stor; 'magnetic detector, ARGUS')
 arsenic
 -ARUS (Erevan ES)
 *associated production
 astatine
 astrophysics
 *asymmetry
 *asymptotic behavior (Not to be used in case of high energy behavior. For asymptotic behavior at low energies see 'infrared problem'.)
 *asymptotic completeness (scattering, asymptotic completeness)
 *asymptotic expansion ('transformation, asymptotic expansion', see also 'transformation, Borel')

*asymptotic freedom ('field theory, asymptotic freedom'; for low energies use 'field theory, infrared problem')
 *at rest (in energy category '0 GeV' is added)
 atom
 -atomic number (mass number)
 atomic physics
 -auxiliary circuits (for electronic circuits 'digital logic' is used, for other circuits 'electrical engineering')
 *avalanche ('drift chamber, avalanche' or 'proportional chamber, avalanche')
 *axial
 *axial gauge (gauge field theory, axial gauge)
 *axial-vector (current, axial-vector)
 axial-vector meson
 *axial-vector meson dominance (model, axial-vector meson dominance)
 axiomatic field theory
 *axion (postulated particle, axion)
 A1(1100-1300)
 A2(1310)
 *A2(1900) (postulated particle, A2(1900))
 A3(1660)
 *A4(1900) (postulated particle, A4(1900))

- B(1235)
 B-L number
background
 *background gauge (gauge field theory, background gauge)
 -background radiation (radiation, background)
backscatter
 -backward scattering ('backscatter' or 'scattering, wide-angle')
 *Baecklund (transformation, Baecklund)
 *bag (model, bag)
barium
baryon
baryon antibaryon
baryon baryon
baryon deuteron
baryon light nucleus
baryon n
baryon nucleon
baryon nucleus
baryon number
baryon p
baryon quark
baryon resonance
baryon vector meson
 -baryonic number (baryon number)
baryonium
 *Batavia PS
 *Batavia TEVATRON PS
beam
 -beam blowup (beam instability)
 -beam calibration (beam monitoring)
 -beam chopper (bunching)
beam cooling (for proton beams; see also 'electron cooling' or 'stochastic cooling'; for electron beams use 'beam damping')
beam damping (for electron beams; for proton beams use 'beam cooling')
 *beam dump (experimental methods, beam dump)
 *beam dumping (storage ring, beam dumping)
beam dynamics
beam emittance
beam focusing
beam instability
 -beam lines (beam transport)
beam loading
beam loss
beam monitoring
beam optics
beam oscillation (For longitudinal beam oscillation use 'synchrotron oscillation'; for transverse beam oscillation use 'betatron oscillation'.)
 -beam polarization (Use 'beam, polarization' for measurement of polarization degree. See also 'polarized beam')
 -beam stop (experimental methods, beam dump)
beam transport
 *beam-beam (scattering, beam-beam)
- beautiful baryon**
 -beautiful hadron (use 'beautiful meson' or 'beautiful baryon')
beautiful meson
beautiful particle
 *beautonium (quark, beautionium)
 *beauty (quark, beauty)
 *Becchi-Rouet-Stora (transformation, Becchi-Rouet-Stora)
bending magnet
 *Berkeley Cycl
 *Berkeley PS
berkelium
 *Berlin BESSY Stor
beryllium
 -BESSY (Berlin BESSY Stor)
 -beta decay (semileptonic decay)
 *beta function ('beam optics, beta function' or 'renormalization, beta function')
betatron
betatron oscillation
 *Bethe-Heitler (approximation, Bethe-Heitler)
Bethe-Salpeter equation
 -BEVATRON (Berkeley PS)
 -Bhabha scattering (electron positron, elastic scattering)
 *Bianchi identity (field theory, Bianchi identity)
bibliography
binding energy
bismuth
 *Bjorken (scaling, Bjorken)
 *Bjorken limit (high energy behavior, Bjorken limit)
 -Bjorken model (high energy behavior, Bjorken limit)
 -Bjorken-Johnson-Low (high energy behavior, Bjorken limit)
 -black hole (gravitation)
 -block transfer (digital logic, readout)
 *Bloom-Gilman ('sum rule, Bloom-Gilman' or 'duality, Bloom-Gilman')
 -Blumlein line ('power supply' and 'streamer chamber')
 *Bonn ES
book
 *booster
bootstrap
 *Borel ('transformation, Borel'; see also 'transformation, asymptotic expansion')
 *Born (approximation, Born)
boron
 -Bose statistics (boson, statistics)
boson
boson boson
boson deuteron
boson light nucleus
boson nucleus
 -bottom (quark, beauty)
bound state
 *boundary condition

- box diagram ('Feynman graph'
(restricted use))
- BPHZ (renormalization, regularization)
- *branch highway (CAMAC system, branch
highway)
- *branching ratio (very restricted use:
only in case of measured or
calculated numerical value)
- *breakup ('fission, breakup' or, e.g., 'p,
breakup')
- *Breit-Wigner (model, Breit-Wigner)
- bremsstrahlung**
- broken symmetry ('symmetry breaking'
or 'symmetry, spontaneously broken'
or 'symmetry, dynamically broken')

- bromine**
- *Brookhaven ISABELLE Stor
- *Brookhaven Linac
- *Brookhaven PS
- bubble chamber**
- bubble chamber(deuterium)**
- bubble chamber(heavy liquid)**
- bubble chamber(helium) (use 'bubble
chamber' and 'helium')
- bubble chamber(hydrogen)**
- buildings**
- bunching**
- *bypass (storage ring, bypass)

- C invariance (invariance, charge conjugation)
- *C* (algebra, C*)
- C-parity (quantum number, charge conjugation)
- *Cabibbo (model, Cabibbo)
- *Cabibbo angle (weak interaction, Cabibbo angle)
- cadmium
- calcium
- calibration
- californium
- *Callan-Gross (sum rule, Callan-Gross)
- *Callan-Symanzik equation (renormalization group, Callan-Symanzik equation)
- *Callan-Treiman relation (current algebra, Callan-Treiman relation)
- calorimeter ('showers, energy' and 'energy, measurement')
- *Caltech ES
- CAMAC system
- *Cambridge ES
- capture
- CAR ('algebra, commutation relations' (restricted use))
- carbon
- *cascade ('model, cascade' or 'nucleus, cascade'; see also 'showers' and 'cascade decay')
- *cascade decay
- cascade evaporation model (model, cascade)
- Casimir operator (group theory)
- Castillejo-Dalitz-Dyson poles (partial wave, dispersion relations)
- *causality (e.g. 'field theory, causality', 'quantum mechanics, causality' or 'dispersion relations, causality')
- cavity (RF system)
- CCR ('algebra, commutation relations' (restricted use))
- *CELLO (at PETRA; 'magnetic detector, CELLO')
- *central region (inclusive reaction, central region)
- ceramics
- cerium
- *CERN Cycl
- *CERN LEP Stor
- *CERN Muon Stor
- *CERN SPS
- *CERN SPS Coll (p anti-p collider, 540 GeV-cms)
- *CERN Stor
- *CERN1 PS
- cesium
- CESR (Cornell CESR Stor)
- channel (not used)
- channel cross section (used for the integrated differential cross section of a channel)
- *channeling (effect, channeling)
- charge
 - *charge conjugation ('invariance, charge conjugation' or 'violation, charge conjugation' or 'quantum number, charge conjugation')
 - *charge correlation (jet, charge correlation)
 - charge distribution (see also 'form factor')
 - charge exchange
 - charged current
 - charged particle
 - *charm (quark, charm)
 - *charm changing (current, charm changing)
 - charmed baryon
 - charmed hadron (use 'charmed meson' or 'charmed baryon' or 'charmed particle')
 - charmed meson
 - charmed particle
 - *charmonium (quark, charmonium)
 - chemicals
 - chemistry
 - *Cherenkov (radiation, Cherenkov)
 - Cherenkov counter
 - Cherenkov radiation (radiation, Cherenkov)
 - Cherenkov spectrometer (Cherenkov counter)
 - Chew-Frautschi plot (Regge poles)
 - *Chew-Low (model, Chew Low)
 - chi(3415)
 - *chi(3455) (postulated particle, chi(3455))
 - chi(3510) (chi/PC(3510))
 - chi(3550)
 - *chi(3590) (postulated particle, chi(3590))
 - chi/PC(3510)
 - *Chicago Cycl
 - Chilton PS (NIMROD PS)
 - *chiral (generally 'symmetry, chiral')
 - chlorine
 - *Chou-Yang (model, Chou-Yang)
 - *chromatic correction ('accelerator, chromatic correction' or 'beam optics, chromatic correction')
 - *chromaticity (polarized beam, chromaticity)
 - chromium
 - CIM (model, constituent interchange)
 - *classical (field theory, classical)
 - *Clebsch-Gordan coefficients (group theory, Clebsch-Gordan coefficients)
 - *CLEO (at Cornell; 'magnetic detector, CLEO')
 - *Clifford (algebra, Clifford)
 - closed-loop diagram ('field theory, higher-order' or 'duality, higher-order')
 - closed-orbit correction (correction, orbit)
 - *closure (approximation, closure)
 - *cluster (model, cluster)
 - *cluster analysis (multidimensional analysis, cluster analysis)
 - cobalt

*coherent interaction
 *coherent production
 *coherent state (e.g. 'quantum mechanics, coherent state' or 'quantum electrodynamics, coherent state')
 coil
 -coincidence ('fast logic' or 'trigger')
 -Coleman-Glashow formula (baryon, mass difference)
 -Coleman-Weinberg instability (symmetry breaking)
 *collective (used only in connection with accelerators; see also 'collective phenomena')
 *collective phenomena ('field theory, collective phenomena' or 'nuclear physics, collective phenomena')
 *collective tube (model, collective tube)
 colliding beam detector (use only in instrumental papers)
 *colliding beams
 *color (quark, color)
 colored particle
 communications
 *commutation relations ('field theory, commutation relations' or 'current algebra, commutation relations' or 'quantum mechanics, commutation relations' or 'algebra, commutation relations' (very restricted use))
 -commutator (commutation relations)
 *composite (model, composite)
 compounds
 Compton scattering
 computer
 concrete
 *condensation (e.g. 'pi, condensation' or 'n, condensation')
 conference
 *configuration (interference, configuration)
 *confinement (quark, confinement)
 *conformal (invariance, conformal)
 conservation law
 *conserved A-V current (model, conserved A-V current)
 *conserved vector current (model, conserved vector current)
 -conspiracy (Regge poles, forward scattering)
 *constituent interchange (model, constituent interchange)
 *constructive (field theory, constructive)
 -contamination ('dosimetry' or 'background' or 'admixture')
 *continuous moment (sum rule, continuous moment)
 *continuum limit (lattice field theory, continuum limit)
 control system
 *coplanar (angular distribution, coplanar)
 copper
 *Cornell CESR Stor
 *Cornell ES
 correction
 correlation
 correlation function
 cosmic radiation
 -cosmology (astrophysics)
 *costs
 -Cottingham formula (mass difference)
 *Coulomb
 -Coulomb dissociation (nuclear reaction, Coulomb scattering)
 *Coulomb gauge (gauge field theory, Coulomb gauge)
 *Coulomb scattering
 counters and detectors
 *coupled channel (partial wave analysis, coupled channel)
 coupling (restricted use)
 coupling constant (restricted use)
 -covariance ('invariance, Lorentz' (restricted use))
 *CP ('invariance, CP' or 'violation, CP')
 *CP(N-1) (field theoretical model, CP(N-1))
 *CPT ('invariance, CPT' or 'violation, CPT')
 -critical exponent (critical phenomena)
 *critical phenomena ('field theory, critical phenomena' or 'thermodynamics, critical phenomena' or 'statistical mechanics, critical phenomena')
 -critical point (critical phenomena)
 cross section (restricted use, see also 'total cross section' or 'differential cross section' or 'channel cross section')
 *crossing (symmetry, crossing)
 -cryogenics ('low temperature' or 'superconducting')
 crystal
 *Crystal Ball (at SPEAR, since 1982 at DORIS II; 'four-pi-detector, Crystal Ball')
 -crystal scintillator (scintillation counter, crystal)
 *cumulative production (e.g. 'hadron nucleus, cumulative production')
 curium
 current (restricted use, see also 'neutral current', 'charged current' or 'weak current')
 current algebra
 -current commutation relations (current algebra, commutation relations)
 -current commutators (current algebra, commutation relations)
 -current conservation law (current, conservation law)
 *current-current ('model, current-current' or 'interference, current-current')

-current-current mixing (interference,
current-current)
*CUSB (at Cornell CESR; 'magnetic
detector, CUSB')

-CVC (model, conserved vector current)
cyclotron

D
 D anti-D
 D(1285)
 D+
 D*(2010)
 D-
 *D/F ratio (coupling constant, D/F ratio)
 *Dalitz plot (multidimensional analysis, Dalitz plot)
 *damage (radiation, damage)
 -damping ('energy loss' or 'beam damping')
 -Daresbury ES (NINA ES)
 *DASP (at DORIS; 'magnetic detector, DASP')
data acquisition
 -data analysis ('statistical analysis' or 'multidimensional analysis' or 'partial wave analysis' or 'data compilation' or 'data analysis method' or 'interpretation of experiments')
data analysis method (restricted use)
 -data collection (data compilation)
data compilation
 -data handling (programming)
 -data presentation ('interpretation of experiments' or 'data analysis method')
 -data processing ('computer' or 'programming')
 -DCI (Orsay Stor)
 *de Sitter ('group theory, de Sitter' or 'algebra, de Sitter')
decay (restricted use, if possible use more specific term)
 *decay modes (e.g. 'pi+', decay modes')
 *decay rate (e.g. 'K0, decay rate')
 *decay width (e.g. 'Lambda, decay width')
 *Deck (effect, Deck)
 -Deck model (effect, Deck)
 *deep inelastic scattering (also 'model, deep inelastic scattering')
 *deep underground (only in connection with cosmic radiation experiments; 'experimental methods, deep underground')
 *delay line (proportional chamber, delay line)
 *Delbrueck (scattering, Delbrueck)
 *DELCO (at PEP; 'magnetic detector, DELCO')
 *Delta ('nucleon resonance, Delta' (I=3/2, mass > 1232 MeV))
 Delta(1232) (partial wave P'33)
 Delta(1232)+
 Delta(1232)++
 Delta(1232)-
 Delta(1232)--
 Delta(1232)0
 *Delta(1550) (partial wave P'31; 'postulated particle, Delta(1550)')
 Delta(1650) (partial wave S'31)
 Delta(1670) (partial wave D33)
 Delta(1690) (partial wave P''33)
 Delta(1890) (partial wave F35)

*Delta(1900) (partial wave S''31; 'postulated particle, Delta(1900)')
 Delta(1910) (partial wave F''31)
 Delta(1950) (partial wave F37)
 *Delta(1960) (partial wave P'''33; 'postulated particle, Delta(1960)')
 Delta(1960) (partial wave D35)
 Delta(2160)
 *Delta(2300) (partial wave H39; 'postulated particle, Delta(2300)')
 Delta(2420) (partial wave H311)
 *Delta(2500) (partial wave G39; 'postulated particle, Delta(2500)')
 *Delta(2750) (partial wave I313; 'postulated particle, Delta(2750)')
 Delta(2850)
 *Delta(2950) (partial wave K315; 'postulated particle, Delta(2950)')
 Delta(3230)
 delta(980)
density
 *density matrix (generally 'spin, density matrix')
dependence (restricted use)
 *depolarization (polarization, depolarization)
 *DESY DORIS Stor (at Hamburg)
 *DESY DORIS II Stor (at Hamburg)
 *DESY ES (at Hamburg)
 *DESY HERA Stor (at Hamburg)
 *DESY PETRA Stor (at Hamburg)
 -detection ('measurement' or 'particle identification' or a specific detector)
 -detector (use more specific keyword)
deuterium (see also 'deuteron')
deuteron (see also 'deuterium')
deuteron deuteron
deuteron light nucleus
deuteron nucleus
 *dibaryon (baryon resonance, dibaryon)
 *difference
differential cross section (for the integrated differential cross section of a channel use 'channel cross section')
 *differential geometry (mathematical methods, differential geometry)
diffraction
 -diffraction dissociation (diffraction, dissociation)
 -diffraction model ('model, diffraction' or, experimental, 'interpretation of experiments, diffraction')
 -diffraction scattering (diffraction)
 -diffractive excitation (model, diffraction)
 -diffractive production (diffraction, production)
diffusion
digital logic ('digital logic, readout' or 'digital logic, interface')
 -digital-digital circuit (digital logic)
 -dilatation (symmetry, dilation)
 *dilation (symmetry, dilation)
 -dilaton (symmetry, dilation)

- *dilepton (e.g. 'final state, dilepton')
- *dilute gas (approximation, dilute gas)
- *dimuon (e.g. 'mass spectrum, dimuon')
- *dip (differential cross section, dip)
- *dipion
 - dipole (form factor)
 - dipole magnet (bending magnet)
- *diquark (quark, diquark)
- *Dirac (field equations, Dirac)
 - Dirac particle ('fermion', see also 'field equations, Dirac' or 'magnetic monopole')
- *direct production
 - discharge chamber (spark chamber)
 - discriminator (analog-to-digital converter)
- *dispersion
 - dispersion relations
 - dispersion theory (dispersion relations)
- *dissociation (diffraction, dissociation)
- *distorted wave Born (approximation, distorted wave Born)
- *distorted wave impulse (approximation, distorted wave impulse)
- distribution (in experimental papers: 'spectra' or 'angular distribution' or 'energy spectrum' or 'mass spectrum')
- *DM1 (at Orsay; 'magnetic detector, DM1')
- *DM2 (at Orsay; 'magnetic detector, DM2')
- DORIS (DESY DORIS Stor)
- DORIS II (DESY DORIS II Stor)
- dosimetry**
 - double absorption (use 'absorption' and 'final-state interaction')
 - double capture (capture, multiple)
 - double charge exchange (charge exchange, multiple)
 - double exchange ('Regge poles, multi-Regge' or 'radiative correction' or 'final-state interaction' or 'charge exchange, multiple')
 - double excitation (excited state)
 - double pair production (multiple production, pair production)
 - double peripheral (model, peripheral)
 - double Regge exchange (Regge poles, multi-Regge)
- double Regge pole (Regge poles, multi-Regge)
- double scattering ('exchange' or 'multiple scattering')
- double spectral function (Mandelstam representation)
- double-arm spectrometer (e.g. 'magnetic spectrometer')
- *down (quark, down)
- Drell effect (use ' $\pi^+ \pi^-$, photoproduction' and 'exchange, one-meson')
- Drell ratio ('electron positron, annihilation' and 'total cross section, ratio')
- *Drell-Hearn-Gerasimov (sum rule, Drell-Hearn-Gerasimov)
- *Drell-Yan ('model, parton' and 'model, Drell-Yan')
- *Drell-Yan-West (model, Drell-Yan-West)
- drift chamber
- *drift velocity (only in connection with detectors)
- *droplet (model, droplet)
- dual diffraction ('diffraction' and 'duality')
- dual field theory (see also 'field theory, duality')
- dual model ('model, dual resonance' or 'duality')
- *dual resonance (model, dual resonance)
- dual-loop model (dual field theory, higher-order)
- duality (usually without 'Regge poles')
- *Dubna Cycl
- *Dubna PS
- DWBA (approximation, distorted wave Born)
- *dynamically broken ('symmetry, dynamically broken'; see also 'symmetry, spontaneously broken')
- *dyon (field equations, dyon)
- *Dyson-Schwinger (field equations, Dyson-Schwinger)
- dysprosium**
- D0
- D0 anti-D0

E(1420)

- *e+e-(1100-3100) (postulated particle, e+e-(1100-3100))
- effect (restricted use)
- *effective Hamiltonians ('field theory, effective Hamiltonians' or 'gauge field theory, effective Hamiltonians')
- *effective Lagrangians ('current algebra, effective Lagrangians', or 'field theory, effective Lagrangians')
- effective mass (mass spectrum)
- *effective potential (approximation, effective potential)
- *effective range (approximation, effective range)
- *efficiency (e.g. 'counters and detectors, efficiency')
- eigenstate (see 'energy eigenstate')
- *eikonal ('approximation, eikonal' or 'Regge cut')
- *Einstein (field equations, Einstein)
- *Einstein-Maxwell (field equations, Einstein-Maxwell)
- einsteinium
- ejection
- elastic scattering
- elastic total cross section (elastic scattering, channel cross section)
- *electric
- electric field
- electric moment
- electrical engineering
- electrofission (fission due to electrons or muons)
- *electromagnetic
- *electromagnetic component (cosmic radiation, electromagnetic component)
- *electromagnetic decay (see also 'radiative decay')
- electromagnetic field
- electromagnetic form factor (form factor)
- electromagnetic interaction
- electromagnetic mixing ('interference, electromagnetic' (restricted use))
- electron (also used when charge is irrelevant)
- electron baryon
- electron boson
- *electron cooling (beam cooling, electron cooling)
- electron deuteron
- electron electron (also used when charge is irrelevant)
- electron hadron
- electron light nucleus
- electron meson
- electron muon
- electron muon+
- electron muon-
- electron n
- electron neutrino (for the interaction use 'neutrino electron'; for the particle use 'neutrino/e/')
- electron nucleon
- electron nucleus
- electron number
- electron p
- electron pi
- electron positron
- electron quark
- *electron ring ('accelerator, electron ring' (not coupled with 'ion' or 'heavy ion'))
- electron synchrotron
- electronics (restricted use)
- *electroproduction (normally used when particles are produced by electrons or muons; for $q^2 = 0$ see 'photoproduction')
- *electrostatic
- electrostatic accelerator (accelerator, electrostatic)
- electrostatic separator (particle separator)
- electroweak interaction
- elementary length (fundamental constant, length)
- elements
- emission
- emulsion chamber (use 'nuclear emulsion' and possibly 'total-absorption counter')
- energy
- *energy dependence
- *energy eigenstate ('quantum mechanics, energy eigenstate' or 'field theory, energy eigenstate' or 'quantum electrodynamics, energy eigenstate'. not used for energy levels or excited states.)
- *energy flow (jet, energy flow)
- energy levels
- energy loss
- *energy resolution (e.g. 'counters and detectors, energy resolution')
- energy spectrum
- *energy-momentum (tensor, energy-momentum)
- energy-range relation (energy loss)
- *enhancement (e.g. 'total cross section, enhancement' or 'differential cross section, enhancement' or 'cross section, enhancement'; see also 'mass enhancement')
- *entropy
- *epsilon expansion (approximation, epsilon expansion)
- epsilon(1300)
- equilibrium ('statistical mechanics' or 'thermodynamics')
- *equivalent photon (approximation, equivalent photon)
- erbium
- *Erevan ES
- *Ericson fluctuations (statistics, Ericson fluctuations)
- eta eta' mixing (interference, eta(549)-eta(958))

*eta(b) (postulated particle, eta(b))
 *eta(c) (postulated particle, eta(c))
 *eta(c)' (postulated particle, eta(c)')
 -eta(1070) (S*(980))
 *eta(1275) (postulated particle,
 eta(1275))
 eta(549)
 *eta(549)-eta(958) (interference,
 eta(549)-eta(958))
 -eta(700-1000) (epsilon(1300))
 eta(958)
 *eta/N(1080) (postulated particle,
 eta/N(1080))
 *Euclidean (field theory, Euclidean)
 europium
 -evaporation model (multiple
 production)
 *exceptional group (for E2, E6, G2 etc.;
 'gauge field theory, exceptional
 group')
 exchange

*exchange degeneracy (used in
 connection with Regge poles)
 -excitation ('excited state' or 'excited
 nucleus')
 excited nucleus
 excited state
 *exclusive reaction
 *exotic ('resonance, exotic' or 'meson
 resonance, exotic' or 'baryon
 resonance, exotic' or 'atom, exotic')
 expansion 1/d
 expansion 1/N
 *experimental equipment
 *experimental methods
 *experimental results
 *extended particle (model, extended
 particle)
 *extensive (showers, extensive)
 *external (symmetry, external)
 *external field ('field theory, external
 field' (restricted use))

- *f meson dominance (model, f meson dominance)
- f(1270)
- f(1515)
- *F+ (postulated particle, F+)
- *F- (postulated particle, F-)
- *F*(2140) (postulated particle, F*(2140))
- F/D ratio (coupling constant, D/F ratio)
- *factorization
- Faddeev equations (many-body problem)
- fast logic (see also 'trigger')
- feedback (used only in connection with accelerators)
- Fermi coupling (weak interaction, current-current)
- *Fermi gas (model, Fermi gas)
- Fermi motion correction (nuclear physics, correction)
- Fermi statistics (fermion, statistics)
- fermion
- fermion antifermion
- fermion boson
- fermion fermion
- fermion intermediate boson
- fermium
- *ferromagnet (model, ferromagnet)
- FESR (sum rule, finite energy)
- *Feynman (scaling, Feynman)
- Feynman fluid ('scaling, Feynman' or 'model, fluid')
- Feynman gas ('scaling, Feynman' or 'model, gas')
- *Feynman gauge (gauge field theory, Feynman gauge)
- Feynman graph (restricted use)
- Feynman integral (Feynman graph)
- Feynman path ('field theory, path integral' or 'perturbation theory, path integral')
- Feynman rule ('Feynman graph' or 'perturbation theory')
- *fibre bundle (field theory, fibre bundle)
- field equations
- field theoretical model
- field theory (see also 'gauge field theory' or 'field theoretical model' or 'unified field theory' or 'dual field theory' or 'Reggeon field theory' or 'lattice field theory' or 'grand unified theory')
- Fierz crossing symmetry (model, four-fermion interaction)
- final state (restricted use, examples: 'final state, (p 2pi)'; 'final state, dimuon')
- final-state interaction
- *fine structure (atomic physics, fine structure)
- *finite energy (sum rule, finite energy)
- *finite mass (sum rule, finite mass)
- *finite momentum
- *finite temperature (field theory, finite temperature)
- *fireball (model, fireball)
- fission
- fit ('interpretation of experiments, ...' or 'statistical analysis, ...'. These terms are specified by the additives. For new methods 'data analysis method' is used.)
- *five-dimensional ('field theory, five-dimensional' or 'quantum electrodynamics, five-dimensional' or 'quantum chromodynamics, five-dimensional' or 'quantum flavordynamics, five-dimensional')
- *fixed pole (model, fixed pole)
- *fixed-angle
- *flash tube (spark chamber, flash tube)
- *flavor (quark, flavor)
- *flavor changing (current, flavor changing)
- *fluid (only used for 'model, fluid'; otherwise use 'liquid')
- fluorine
- flux
- *flux tube (model, flux tube)
- FNAL (Batavia PS)
- *Foldy-Wouthuysen (transformation, Foldy-Wouthuysen)
- *Forbush (cosmic radiation, Forbush)
- forces
- form factor (if appropriate, specifiers are added (example: 'form factor, magnetic'); no specifier is used for electromagnetic form factors)
- *forward scattering (used only for zero-degree scattering, otherwise see '...', small-angle')
- forward spectrometer
- forward-backward asymmetry (angular distribution, asymmetry)
- *four-component neutrino (model, four-component neutrino)
- *four-dimensional ('field theory, four-dimensional' or 'quantum electrodynamics, four-dimensional' or 'quantum chromodynamics, four-dimensional' or 'quantum flavordynamics, four-dimensional')
- *four-fermion interaction (model, four-fermion interaction)
- four-pi-detector (restricted use, frequently used for colliding-beam detectors)
- *fractionally charged (restricted use)
- *fragmentation ('beam, fragmentation' or 'target, fragmentation' or, more general, 'multiple production, fragmentation')
- fragmentation function
- francium
- *Frascati ES
- *Frascati Stor
- *freon
- frequency generation (microwaves)
- *frequency measurement (experimental methods, frequency measurement)
- *Friedman (model, Friedman)

-Fritsch-Gell-Mann (light cone
behavior)
*Froissart bound (high energy behavior,
Froissart bound)
*Froissart-Gribov (partial wave,
Froissart-Gribov)

functional analysis
fundamental constant
-fundamental length (fundamental
constant, length)
fusion
*F1(1540) (postulated particle, F1(1540))

- *G parity (quantum number, G parity)
- g(1700)
- g-2 (magnetic moment)
- gadolinium
- gallium
- gas
- *gauge ('invariance, gauge' or 'transformation, gauge'; see also 'gauge field theory')
- gauge boson (only in connection with a more specific term)
- gauge field theory
- *Geel Linac
- *Gell-Mann-Low (renormalization group, Gell-Mann-Low)
- *Gell-Mann-Oakes-Renner (model, Gell-Mann-Oakes-Renner)
- *Gell-Mann-Okubo ('model, Gell-Mann-Okubo' or 'mass formula, Gell-Mann-Okubo')
- *Gell-Mann-Zweig (quark, Gell-Mann-Zweig)
- *general (relativity theory, general)
- generalized vector dominance (model, vector dominance)
- *geometrical (e.g. 'scaling, geometrical')
- *Georgi-Glashow (model, Georgi-Glashow)
- germanium
- giant resonance (excited nucleus, collective phenomena)
- GIM (model, Glashow-Iliopoulos-Maiani)
- *ghost (gauge field theory, ghost)
- *Glasgow Linac
- *Glashow-Iliopoulos-Maiani (model, Glashow-Iliopoulos-Maiani)
- glass
- *Glauber (model, Glauber)
- glueball
- gluon
- gluon gluon
- gluon parton
- gluon photon (photon gluon)
- gluonium (glueball)
- gold
- Goldberger-Treiman relation ('model, PCAC' and 'pi, decay')
- Goldstone boson (field theory, Goldstone theorem)
- Goldstone model (symmetry, spontaneously broken)
- *Goldstone theorem (field theory, Goldstone theorem)
- grand unified theory (unified field theory of strong, electromagnetic, and weak interactions)
- *Grassmann (algebra, Grassmann)
- gravitation
- gravitational radiation
- gravitational waves (gravitational radiation)
- *gravitino (postulated particle, gravitino)
- *graviton (postulated particle, graviton)
- Green function (use 'n-point function' or 'vertex function' or 'propagator')
- *Gribov (model, Gribov)
- Gribov-Pomeranchuk (partial wave, analytic properties)
- *Gross-Neveu (field theoretical model, Gross-Neveu)
- group theory
- GUT (grand unified theory)

- h(2040)
 *H(990) (postulated particle, H(990))
 hadron
 hadron deuteron
 hadron hadron
 hadron light nucleus
 hadron nucleon
 hadron nucleus
 -hadron resonance (use 'meson resonance' or 'baryon resonance')
 hadron spectroscopy (not used for apparatus)
 *hadronic
 *hadronic atom
 *hadronic component (cosmic radiation, hadronic component)
 *hadronic decay (use for strong decays only; otherwise use 'nonleptonic decay')
 *hadronization ('quark, hadronization'; only in connection with jets)
 *hadroproduction
 hafnium
 *Hamiltonian formalism ('lattice field theory, Hamiltonian formalism'; not used for Hamiltonians)
 *Han-Nambu (quark, Han-Nambu)
 *hard core (model, hard core)
 -hard meson (current algebra, effective Lagrangians)
 -hard photon (radiative correction)
 -hard pion (current algebra, effective Lagrangians)
 *hard scattering ('model, hard scattering'; see also 'model, constituent interchange' or 'model, parton')
 *hardware (only in connection with microprocessors)
 -harmonic oscillator (model, oscillator)
 *Hartree-Fock ('approximation, Hartree-Fock' for self-consistent calculations in quantum mechanics)
 health physics (see also 'nuclear medicine' or 'dosimetry')
 heat engineering
 *heavy
 *heavy ion
 heavy lepton
 -heavy lepton antineutrino (antineutrino/L/)
 -heavy lepton neutrino (neutrino/L/)
 *Heisenberg (field theoretical model, Heisenberg)
- helicity
 helium
 -HERA (DESY HERA Stor)
 *hierarchy problem (gauge field theory, hierarchy problem)
 *Higgs (model, Higgs)
 *Higgs particle (postulated particle, Higgs particle)
 -Higgs-Kibble (field theoretical model, Salam-Weinberg)
 *high (momentum transfer, high)
 *high energy behavior (only for theoretical models; used only when high energy behavior is not implicated by other keywords given)
 *higher-dimensional (e.g. 'field theory, higher-dimensional'; dimension > 6)
 *higher-order (restricted use, preferably with interactions, e.g. 'weak interaction, higher-order' otherwise with field theory: 'field theory, higher-order', also 'magnetic moment, higher-order' (from sixth order on; not used for KO anti-KO))
 *higher-twist (effect, higher-twist)
 -Hilbert space (functional analysis, linear spaces)
 *history (e.g. 'particle physics, history')
 hodoscope
 -hodoscope chamber (spark chamber, flash tube)
 holmium
 *horizontal symmetry (gauge field theory, horizontal symmetry)
 -hybrid model ('model, absorption' and 'Regge poles')
 *hydrodynamical (model, hydrodynamical)
 hydrogen
 *hypercharge ('quantum number, hypercharge'. see also 'strangeness')
 hyperfine structure
 hyperfragment
 -hypernucleus (hyperfragment)
 hyperon
 hyperon antihyperon
 hyperon deuteron
 hyperon hyperon
 hyperon light nucleus
 hyperon nucleus
 hyperon quark
 *hyperonic atom

*I(2600) (postulated particle, I(2600))
 -IHEP (Serpuukhov PS)
 *Iizuka-Okubo-Zweig (selection rule, Iizuka-Okubo-Zweig)
 -image chamber ('proportional chamber, time projection' or 'drift chamber, time projection')
 *image intensifier
 *impact parameter (model, impact parameter)
 *impulse (approximation, impulse)
 inclusive reaction
 *incoherent interaction
 *incoherent production
 *indefinite metric ('field theory, indefinite metric' or 'axiomatic field theory, indefinite metric')
 *independent emission (model, independent emission)
 *independent particle (model, independent particle)
 *Indiana Cycl (at Bloomington)
 indium
 *inelastic scattering
 *infinite-component wave equation (current algebra, infinite-component wave equation)
 *infrared problem ('field theory, infrared problem' or 'quantum electrodynamics, infrared problem')
 injection
 inorganic compounds
 *instanton ('field equations, instanton'; for one-dimensional instantons use 'effect, tunneling')
 -instanton solution (field equations, instanton)
 *integer charged (restricted use)
 -integral representation (spectral representation)
 -intensity (see 'yield' or 'flux')
 *interaction (restricted use, if possible use more specific term)

interface (interface, readout)
 interference
 intermediate boson (see also 'postulated particle, W+' or 'postulated particle, W-' or 'postulated particle, Z0')
 -intermediate state (see 'exchange' or 'final state' or 'cascade decay')
 *internal (symmetry, internal)
 -internuclear cascade (nucleus, cascade)
 *interpretation of experiments
 *intranuclear cascade (model, intranuclear cascade)
 *introductory (restricted use, mostly in 'review, introductory')
 invariance
 -invariant phase space (model, statistical)
 *inverse
 inverse scattering method
 iodine
 ion (see also 'heavy ion')
 -ion ring accelerator (accelerator, ion)
 ionization
 ionization chamber
 iridium
 iron
 *Iron Ball (at PEP; 'magnetic detector, Iron Ball')
 -ISABELLE (Brookhaven ISABELLE Stor)
 *Ising (statistical mechanics, Ising)
 *isobar ('model, isobar'; for the nucleon isobar use 'nucleon resonance')
 *isobar doorway (model, isobar doorway)
 *isochronous (cyclotron, isochronous)
 *isoscalar
 isospin
 -isotope (nuclide)
 *isovector
 -ISR (CERN Stor)
 -ITEF PS (Moscow ITEF PS)

J/psi(3100)
*JADE (at PETRA; 'magnetic detector,
JADE')
jet
*joint decay
*Jona-Lasinio-Nambu (model,
Jona-Lasinio-Nambu)

*Josephson (effect, Josephson)
-Jost function (potential scattering)
-Jost-Lehmann-Dyson representation
(spectral representation)
-JWKB (approximation, WKB)

K
K anti-K
K baryon
K deuteron
K K
K K+
K K-
K K0
K light nucleus
K n
K nucleon
K nucleus
K p
***K(1400)** (postulated particle, K(1400))
K+
K+ baryon
K+ deuteron
K+ K+
K+ K-
K+ light nucleus
K+ n
K+ nucleon
K+ nucleus
K+ p
K*(1430)
***K*(1650)** (postulated particle, K*(1650))
K*(1780)
***K*(2200)** (postulated particle, K*(2200))
K*(892)
K-
K- baryon
K- deuteron
K- K-
K- light nucleus
K- n
K- nucleon
K- nucleus
K- p
***K/N(1700)** (postulated particle, K/N(1700))
***Kaluza-Klein** (field theoretical model, Kaluza-Klein)

kappa(1500)
***KEK Linac** (at Tsukuba, Japan)
***KEK PS** (at Tsukuba, Japan)
***KEK TRISTAN Stor** (at Tsukuba, Japan)
***Kharkov Linac**
-Kibble-Higgs (field theoretical model, Salam-Weinberg)
-kicker magnet (pulsed magnet)
-kinematic superstructure (duality)
kinematics
***kink** (field equations, kink)
-kink solution (field equations, kink)
***Klein-Gordon** (field equations, Klein-Gordon)
-klystron (RF system)
***KNO** (scaling, KNO)
-Koba-Nielsen (model, dual resonance)
-Koba-Nielsen-Olesen scaling (scaling, KNO)
***Kobayashi-Maskawa** (field theoretical model, Kobayashi-Maskawa)
***Korteweg-de Vries** (field equations, Korteweg-de Vries)

krypton
K0
K0 anti-K0
K0 baryon
K0 deuteron
K0 K+
K0 K-
K0 K0
K0 light nucleus
K0 n
K0 nucleon
K0 nucleus
K0 p
K0(L)
***K0(L)-K0(S)** (mass difference, K0(L)-K0(S))
K0(S)



*L(1580) (postulated particle, L(1580))
L(1770)
*ladder (approximation, ladder)
· Lagrangian field theory (field theory)
- Lagrangian model (field theory)
- Lamb shift ('radiative correction' and
'atom, energy levels'. Possibly also:
'quantum electrodynamics, validity
test'.)
Lambda
Lambda Antilambda
Lambda deuteron
Lambda Lambda
Lambda light nucleus
Lambda nucleus
*Lambda parameter (gauge field theory,
Lambda parameter)
*Lambda(1330) (postulated particle,
Lambda(1330))
Lambda(1405) (partial wave S'01)
Lambda(1520) (partial wave D'03)
*Lambda(1600) (partial wave P'01;
'postulated particle, Lambda(1600)')
Lambda(1670) (partial wave S''01)
Lambda(1690) (partial wave D''03)
Lambda(1800) (partial wave S'''01)
*Lambda(1800) (partial wave P''01 or G09;
'postulated particle, Lambda(1800)')
Lambda(1815) (partial wave F'05)
Lambda(1830) (partial wave D05)
Lambda(1860) (partial wave P03)
*Lambda(2010) (postulated particle,
Lambda(2010))
*Lambda(2020) (partial wave F07;
'postulated particle, Lambda(2020)')
Lambda(2100) (partial wave G07)
Lambda(2110) (partial wave F''05)
*Lambda(2325) (partial wave D''03;
'postulated particle, Lambda(2325)')
Lambda(2350)
Lambda(2585)
Lambda/c(2260)
*LAMPF linac (at Los Alamos)
*Landau gauge (gauge field theory,
Landau gauge)
*Langevin equation (lattice field theory,
Langevin equation)
lanthanum
*laser (generally, 'optics, laser')
*lattice (e.g. 'approximation, lattice')
lattice field theory
lawrencium
lead
*lead-glass (e.g. 'total-absorption
counter, lead glass')
*leading logarithm (approximation,
leading logarithm)
*leading particle (multiple production,
leading particle)
-least-squares analysis (statistical
analysis)
lectures
*Lee (field theoretical model, Lee)
*left-handed (current, left-handed)

-left-right symmetry (e.g. 'multiple
production, correlation')
*LENA (at DORIS; 'four-pi detector, LENA')
*length ('fundamental constant, length';
see also 'scattering length' or
'radiation length')
*Leningrad IOFFE Cycl
*Leningrad Nucl Inst Cycl
-LEP (CERN LEP Stor)
lepton
lepton antilepton
lepton baryon
lepton deuteron
lepton electron
lepton hadron
lepton K
lepton lepton
lepton light nucleus
lepton meson
lepton muon
lepton muon+
lepton muon-
lepton n
lepton nucleon
lepton nucleus
lepton number
lepton p
lepton pi
lepton positron
lepton quark
*leptonic
*leptonic decay
-leptonic number (lepton number)
*leptoproduction (see also
'electroproduction' or
'neutrino production')
*Lie ('group theory, Lie' or 'algebra, Lie')
*lifetime (e.g. 'pi0, lifetime')
light cone behavior
light nucleus (up to mass number 20
(incl.))
light nucleus light nucleus
light nucleus nucleus
-limiter (fast logic)
· limiting fragmentation (model,
fragmentation)
linear accelerator
·linear amplifier (amplifier)
linear collider
*linear spaces (functional analysis, line-
ar spaces)
*Liouville (field equations, Liouville)
liquid
*liquid argon (total-absorption counter,
liquid argon)
lithium
·locality (axiomatic field theory)
·localization (axiomatic field theory)
·location detection (see 'position
sensitive' or 'track data analysis')
*long-range (use only as 'correlation,
long-range'; do not use for
long-range forces)
*longitudinal (restricted use)

-longitudinal beam oscillation
(synchrotron oscillation)
longitudinal momentum
*longitudinal phase space
(multidimensional analysis,
longitudinal phase space)
-loop diagram ('field theory,
higher-order' or 'dual field theory,
higher-order' or 'perturbation
theory, higher-order')
*Lorentz ('group theory, Lorentz'
(restricted use) or 'invariance,
Lorentz' (restricted use) or
'transformation, Lorentz')

-Los Alamos Linac (LAMPF Linac)
*low (e.g. 'momentum transfer, low')
low temperature
*lower limit (e.g. 'mass, lower limit')
*low-energy theorem (field theory,
low-energy theorem)
-LPS analysis ('multiple production,
longitudinal phase space' or
'multidimensional analysis,
longitudinal phase space')
luminosity
*Lund ES
lutetium

- *M I T Linac
- *M(1033-1040) (postulated particle, M(1033-1040))
- *M(1150-1170) (postulated particle, M(1150-1170))
- *M(940-953) (postulated particle, M(940-953))
- *MAC (at PEP; 'magnetic detector, MAC')
- magnesium**
- magnet**
- *magnetic (see also 'magnetic field' or 'magnetic moment' or 'postulated particle, magnetic monopole' or 'magnetic spectrometer' or 'magnetic detector')
- magnetic charge (charge, magnetic)
- magnetic detector** (Often used connected with the name of the detector. In case of large-angle detectors see also appropriate keywords for chambers and add 'magnetic field'. For small angle detectors see also 'magnetic spectrometer')
- magnetic field**
- magnetic moment**
- *magnetic monopole (postulated particle, magnetic monopole)
- magnetic spectrometer** (see also 'magnetic detector')
- *magnetostrictive (spark chamber, magnetostrictive)
- *Majorana (e.g. 'lepton, Majorana')
- Mandelstam representation**
- manganese**
- manual**
- many-body problem**
- *MARK I (at SPEAR; 'magnetic detector, MARK I')
- *MARK II (at SPEAR; 'magnetic detector, MARK II')
- *MARK J (at PETRA; 'magnetic detector, MARK J')
- mass**
- mass difference**
- mass enhancement**
- mass formula**
- *mass generation (field theory, mass generation)
- *mass number
- mass ratio**
- mass spectrum** (restricted use)
- mass splitting (mass difference)
- *massive
- *massless
- mathematical methods**
- mathematics**
- matter**
- maximum-likelihood method (statistical analysis)
- *Maxwell (field equations, Maxwell)
- *mean field (approximation, mean field)
- measurement**
- mechanical engineering**
- mechanics**
- medicine ('health physics' or 'nuclear medicine')
- *Melosh (transformation, Melosh)
- membran model (model, bag)
- mendelevium**
- mercury**
- *meron (field equations, meron)
- meron solution (field equations, meron)
- *mesic atom
- mesic molecule (molecule, mesic atom)
- meson**
- meson baryon**
- meson deuteron**
- *meson dominance ('model, meson dominance'; used for scalar, pseudoscalar, and tensor mesons)
- meson light nucleus**
- meson meson**
- meson n**
- meson nucleon**
- meson nucleus**
- meson p**
- meson pi**
- meson quark**
- meson resonance**
- meson resonance light nucleus**
- meson resonance nucleon**
- meson resonance nucleus**
- meson vector meson**
- metal**
- microcomputer (microprocessor)
- microprocessor**
- microtron**
- microwaves**
- mineral**
- Minkowski space (field theory)
- *missing-energy (e.g. 'spectra, missing-energy')
- *missing-mass (e.g. 'spectra, missing-mass')
- mixing ('interference' (restricted use))
- *mixing angle (multiplet, mixing angle)
- model** (very restricted use without second term)
- Moeller scattering ('electron electron, elastic scattering' or 'positron positron, elastic scattering')
- molecular biology**
- *molecular physics
- *molecule
- molybdenum**
- moment**
- momentum**
- *momentum resolution (e.g. 'counters and detectors, momentum resolution')
- momentum spectrum**
- momentum transfer**
- monitoring** (see also 'beam monitoring')
- *monochromatic beam (photon, monochromatic beam)
- *monopole (field equations, monopole)
- monopole solution (field equations, monopole)

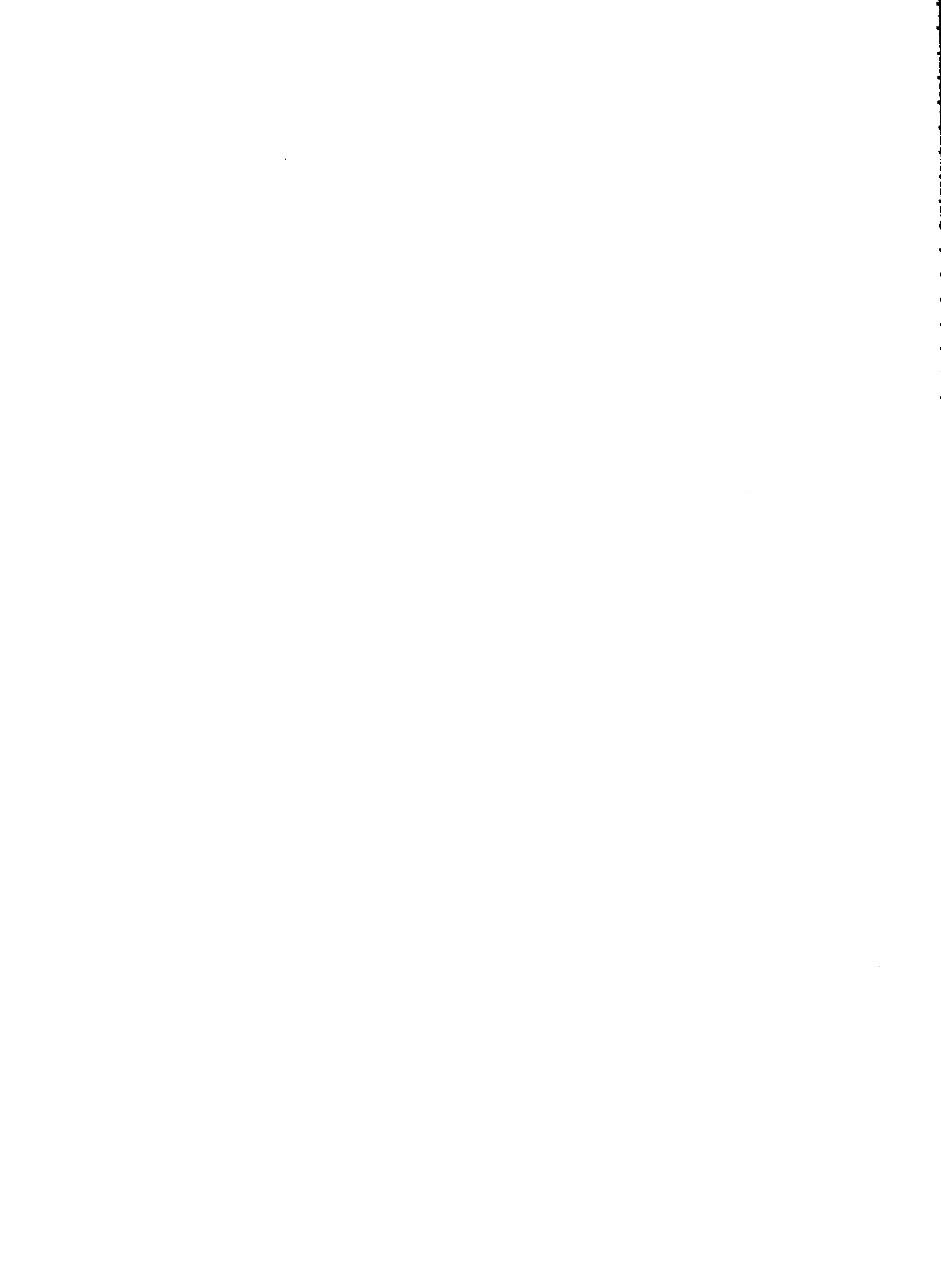
*Monte Carlo (numerical calculations,
 Monte Carlo)
 *Moscow ITEP PS
 *Moscow Linac
 *Moscow RI PS
 *Mueller (model, Mueller)
 *multi-Regge (Regge poles, multi-Regge)
 *multiboson (exchange, multiboson)
 multidimensional analysis
 *multigluon (exchange, multigluon)
 -multiloop ('field theory, higher-order'
 or 'dual field theory, higher-order')
 *multimeson (exchange, multimeson)
 -multiparticle scattering (use
 'many-body problem' or 'multiple
 production' but not 'multiple
 scattering')
 *multiperipheral (model,
 multiperipheral)
 *multiphoton ('exchange, multiphoton'
 and 'perturbation theory')
 *multipion (exchange, multipion)
 *multiple
 multiple production
 multiple scattering
 multiplet
 multiplicity
 *multiply charged
 *multipole (partial wave analysis,
 multipole)
 -multipomeron (pomeron)
 *multiprocessor (microprocessor,
 multiprocessor)
 *multiquark (quark, multiquark)
 -multireggeon ('Regge poles,
 multi-Regge' or 'exchange,
 multi-Regge')
 -multiwire proportional chamber (pro-
 portional chamber)
 muon
 muon baryon
 muon deuteron
 muon hadron
 muon K
 muon light nucleus
 muon meson
 muon muon
 muon n
 -muon neutrino (for the interaction use
 'neutrino'; for the particle use
 'neutrino/mu/')
 muon nucleon
 muon nucleus
 muon number
 muon p
 muon pi
 muon quark
 muon+
 muon+ baryon
 muon+ deuteron
 muon+ light nucleus
 muon+ muon+
 muon+ muon-
 muon+ n
 muon+ nucleon
 muon+ nucleus
 muon+ p
 muon-
 muon- baryon
 muon- deuteron
 muon- light nucleus
 muon- muon-
 muon- n
 muon- nucleon
 muon- nucleus
 muon- p
 *muonic atom (only used in case of
 validity test of QED)
 *muonium
 -muoproduction (electroproduction)
 -MWPC (proportional chamber)

- n (denominates neutron; for nucleon use 'nucleon')
- n anti-n
- n baryon
- n deuteron
- n Lambda
- n light nucleus
- n n
- n nucleus
- n Sigma
- N(1470) (partial wave P'11)
- N(1520) (partial wave D'13)
- N(1535) (partial wave S'11)
- *N(1540) (partial wave P'13; 'postulated particle, N(1540)')
- N(1650) (partial wave S''11)
- N(1670) (partial wave D'15)
- N(1688) (partial wave F'15)
- N(1700) (partial wave D''13)
- N(1710) (partial wave P''11)
- N(1810) (partial wave P''13)
- N(1990) (partial wave F'17)
- *N(2000) (partial wave F''15; 'postulated particle, N(2000)')
- *N(2040) (partial wave D'''13; 'postulated particle, N(2040)')
- *N(2100) (partial wave S''''11 or D''15; 'postulated particle, N(2100)')
- N(2190) (partial wave G'17)
- N(2200) (partial wave G'19)
- N(2220) (partial wave H'19)
- N(2600) (partial wave I111)
- N(2650)
- *N(2700) (partial wave K113; 'postulated particle, N(2700)')
- *N(2800) (partial wave G''19; 'postulated particle, N(2800)')
- N(3030)
- *N(3245) (postulated particle, N(3245))
- *N(3690) (postulated particle, N(3690))
- *N(3755) (postulated particle, N(3755))
- N* (use 'nucleon resonance' for $l=1/2$)
- n-point function
- N/D method (partial wave, dispersion relations)
- NaI (see 'sodium-iodide')
- Nambu (field theoretical model)
- Nambu-Goldstone (symmetry, spontaneously broken)
- NAP Stor (Novosibirsk NAP Stor)
- *narrow resonance (approximation, narrow resonance)
- negative particle
- neodymium
- neon
- neptunium
- neutral current
- neutral particle
- neutral weak current (neutral current)
- neutrals (neutral particle)
- neutrino
- neutrino antineutrino
- neutrino baryon
- neutrino deuteron
- neutrino electron
- neutrino K
- neutrino lepton
- neutrino light nucleus
- neutrino muon
- neutrino n
- neutrino neutrino
- neutrino nucleon
- neutrino nucleus
- neutrino p
- neutrino pi
- neutrino positron
- neutrino/e/
- neutrino/L/ (use for the heavy lepton neutrino)
- neutrino/mu/
- neutrino/tau/
- *neutrinoproduction (used for production by neutrinos or antineutrinos)
- neutron (use 'n')
- *new element (element, new element)
- new particle
- nickel
- *NIM (fast logic, NIM)
- *NIMROD PS (at Chilton, Rutherford)
- *NINA ES (at Daresbury)
- niobium
- nitrogen
- *Niu (postulated particle, Niu)
- no keywords (very restricted use)
- nobelium
- Noether's theorem ('group theory' and 'conservation law')
- *nonabelian ('field theory, nonabelian'; not used together with 'gauge field theory, Yang-Mills')
- *nondiffractive
- *nonleptonic decay (used for weak decays only)
- *nonlinear
- *nonlocal (e.g. 'field theory, nonlocal')
- *nonperturbative
- *nonpolynomial (field theoretical model, nonpolynomial)
- *nonrelativistic
- *nonrenormalizable (field theoretical model, nonrenormalizable)
- *nonstrange (resonance, nonstrange)
- *Novosibirsk NAP Stor
- *Novosibirsk Stor2
- *Novosibirsk Stor3
- *Novosibirsk Stor4
- nuclear cascade (nucleus, cascade)
- nuclear emulsion
- nuclear emulsion chamber (use 'nuclear emulsion' and possibly 'total-absorption counter')
- nuclear engineering
- nuclear force
- nuclear matter
- nuclear medicine
- nuclear model (restricted use)
- nuclear physics
- nuclear properties
- nuclear reaction

-nuclear resonance (excited nucleus)
-nuclear structure ('nuclear properties'
or 'nuclear model')
nucleon
nucleon antinucleon
nucleon deuteron
-nucleon isobar (nucleon resonance)
nucleon Lambda
nucleon light nucleus
nucleon n
nucleon nucleon

nucleon nucleus
nucleon quark
nucleon resonance
nucleon Sigma
nucleus
nucleus nucleus
nucleus quark
nuclide
*numerical calculations
numerical mathematics

- *O(N) ('symmetry, O(N)' or 'group theory, O(N)' or 'field theory, O(N)' or 'gauge field theory, O(N)')
- *O(10) ('symmetry, O(10)' or 'group theory, O(10)' or 'field theory, O(10)' or 'gauge field theory, O(10)')
- *O(2) ('symmetry, O(2)' or 'group theory, O(2)' or 'field theory, O(2)' or 'gauge field theory, O(2)')
- *O(3) ('symmetry, O(3)' or 'group theory, O(3)' or 'field theory, O(3)' or 'gauge field theory, O(3)')
- *O(3,1) ('symmetry, O(3,1)' or 'group theory, O(3,1)' or 'field theory, O(3,1)' or 'gauge field theory, O(3,1)')
- *O(4) ('symmetry, O(4)' or 'group theory, O(4)' or 'field theory, O(4)' or 'gauge field theory, O(4)')
- *O(4,2) ('symmetry, O(4,2)' or 'group theory, O(4,2)' or 'field theory, O(4,2)' or 'gauge field theory, O(4,2)')
- *Oak Ridge Linac
- OBEC (exchange, one-boson)
- *octet (quark, octet)
- *octet dominance (model, octet dominance)
- *octonion (algebra, octonion)
- octupole lens (quadrupole lens, special focusing)
- *off-line (track data analysis, off-line)
- off-mass-shell (model, off-shell)
- *off-shell (model, off-shell)
- Okubo-Zweig rule (selection rule, lizuka-Okubo-Zweig)
- Okubo-Zweig-lizuka rule (selection rule, lizuka-Okubo-Zweig)
- *OMEGA (at CERN; 'magnetic detector, OMEGA')
- omega(1670)
- omega(783)
- *omega(783)-Phi(1020) (interference, omega(783)-Phi(1020))
- Omega-
- Omega- Antiomega-
- omega-Phi interference (interference, omega(783)-Phi(1020))
- omega-rho interference (interference, rho(770)-omega(783))
- *on-line (e.g. 'computer, on-line' (not for papers containing experimental results, except when particulars are given))
- on-mass-shell (model, on-shell)
- *on-shell (model, on-shell)
- *one-boson (exchange, one-boson)
- *one-dimensional ('field theory, one-dimensional' or 'quantum electrodynamics, one-dimensional' or 'quantum chromodynamics, one-dimensional' or 'quantum flavordynamics, one-dimensional')
- one-loop approximation ('Feynman graph, higher-order' or 'dual field theory, higher-order')
- *one-meson (exchange, one-meson)
- *one-particle (exchange, one-particle)
- *one-photon (exchange, one-photon)
- *one-pion (exchange, one-pion)
- *one-vector meson (exchange, one-vector meson)
- OPE (exchange, one-pion)
- *operating system (only in connection with microprocessors)
- *operator algebra (restricted use)
- operator product (field theory, operator product expansion)
- *operator product expansion (field theory, operator product expansion)
- *optical (model, optical)
- *optical theorem (total cross section, optical theorem)
- optics
- orbit
- orbit calculations ('beam optics' and 'orbit')
- organic compounds
- *Orsay Cycl
- *Orsay Linac
- *Orsay Stor
- *oscillation (neutrino, oscillation)
- *oscillator (model, oscillator)
- osmium
- *overlapping resonances (model, overlapping resonances)
- oxygen



p
 p anti-n
 p antihyperon
 p Antilambda
 p antinucleon
 p Antisigma
 p Antixi
 p baryon
 p deuteron
 p hyperon
 -P invariance (parity, invariance)
 p Lambda
 p light nucleus
 p n
 p nucleon
 p nucleus
 p p
 p Sigma
 p Sigma+
 p Sigma-
 p Sigma0
 p Xi
 p Xi-
 p Xi0
 -P-wave (partial wave)
 *Pade (approximation, Pade)
 pair
 *pair production
 palladium
 -paracharmonium (see 'charmonium')
 *parametrization (for functional fits use
 'interpretation of experiments,
 parametrization' or 'numerical
 mathematics, parametrization' or
 'statistical analysis,
 parametrization')
 *parastatistics (statistics, parastatistics)
 parity
 partial wave
 partial wave analysis
 -partially conserved axial-vector
 current (model, PCAC)
 -partially conserved vector current
 (model, PCVC)
 particle
 particle antiparticle
 particle identification
 *particle nucleus
 particle physics (restricted use)
 particle separator
 particle source
 *parton ('model, parton'; see also 'model,
 quark parton')
 *path integral ('field theory, path inte-
 gral' or 'perturbation theory, path
 integral')
 -path length (absorption)
 *Pati-Salam (field theoretical model,
 Pati-Salam)
 -pattern recognition ('track data
 analysis, on-line' or 'track data
 analysis, off-line')
 -PC(3510) (chi/PC(3510))
 *PCAC (model, PCAC)
 *PCVC (model, PCVC)

-PEP (SLAC PEP Stor)
 *peripheral (model, peripheral)
 perturbation theory
 -PETRA (DESY PETRA Stor)
 -Peyrou plot ('transverse momentum'
 and 'longitudinal momentum')
 -phase factor (see e.g. 'Wilson loop')
 -phase shift ('partial wave' or 'partial
 wave analysis')
 *phase space ('kinematics, phase space'
 or 'statistical analysis, phase space')
 -phase transition (see 'critical
 phenomena')
 -phenomenology (not used)
 Phi(1020)
 -phi-to-the-nth model (field theoretical
 model, scalar)
 phosphorus
 -photoabsorption (photon, absorption)
 -photodisintegration (photofission)
 -photoexcitation (use 'photon,
 absorption' and 'excited nucleus')
 photofission
 photon
 photon baryon
 photon deuteron
 photon electron
 *photon gluon (vertex function, photon
 gluon)
 photon hadron
 photon K
 photon lepton
 photon light nucleus
 photon meson
 photon n
 photon neutrino
 photon nucleon
 photon nucleus
 photon p
 photon photon
 photon photon coalescence (photon
 photon, interaction)
 photon pi
 photon quark
 -photon splitting (electromagnetic
 interaction, higher-order)
 photon vector meson
 *photoproduction (for $q^*2 \rightarrow 0$, see
 'electroproduction')
 pi
 pi baryon
 pi deuteron
 pi K
 pi K+
 pi K-
 pi K0
 pi light nucleus
 pi n
 pi nucleon
 pi nucleus
 pi p
 pi pi
 pi pi+
 pi pi-
 pi pi0

pi quark
 pi vector meson
 pi+
 pi+ baryon
 pi+ deuteron
 pi+ K
 pi+ K+
 pi+ K-
 pi+ K0
 pi+ light nucleus
 pi+ n
 pi+ nucleon
 pi+ nucleus
 pi+ p
 pi+ pi+
 pi+ pi-
 pi-
 pi- baryon
 pi- deuteron
 pi- K
 pi- K+
 pi- K-
 pi- K0
 pi- light nucleus
 pi- n
 pi- nucleon
 pi- nucleus
 pi- p
 pi- pi-
 *pi-rho(770)-omega(783) (coupling,
 pi-rho(770)-omega(783))
 -pionic form factor (vertex function)
 *pionization (multiple production,
 pionization)
 *Pittsburgh Cycl
 pi0
 pi0 baryon
 pi0 deuteron
 pi0 K
 pi0 K+
 pi0 K-
 pi0 K0
 pi0 light nucleus
 pi0 n
 pi0 nucleon
 pi0 nucleus
 pi0 p
 pi0 pi+
 pi0 pi-
 pi0 pi0
 *planar (Feynman graph, planar)
 plasma
 plastics (e.g. 'plastics, track sensitive')
 platinum
 -plotting methods (see 'data analysis
 method' (restricted use) or
 'multidimensional analysis, prism
 plot' or 'statistical analysis')
 *PLUTO (at DORIS and PETRA; 'magnetic
 detector, PLUTO')
 plutonium
 -Poincare group (group theory, Lorentz)
 *polarizability
 polarization
 *polarized beam (e.g. 'electron, polarized
 beam')
 *polarized target (e.g. 'nucleon,
 polarized target')
 *pole (approximation, pole)
 -pole dominance ('model, pole' or
 'model, resonance')
 polonium
 *Pomeranchuk theorem (total cross
 section, Pomeranchuk theorem)
 pomeron (also 'pomeron, multi-Regge')
 *position sensitive (e.g. 'proportional
 chamber, position sensitive')
 positive particle
 -positivity (axiomatic field theory)
 positron
 *positron accumulator (e.g. 'storage
 ring, positron accumulator')
 positron baryon
 positron boson
 positron deuteron
 positron hadron
 positron light nucleus
 positron n
 positron nucleon
 positron nucleus
 positron p
 positron positron
 positronium
 postulated particle
 potassium
 potential
 potential scattering
 power engineering
 power supply
 praseodymium
 -preon (model, prequark)
 preprocessing
 *prequark (model, prequark)
 *pressure
 *Primakoff (effect, Primakoff)
 *primary (use in 'cosmic radiation,
 primary')
 *Princeton PS
 *prism plot (multidimensional analysis,
 prism plot)
 -probability (statistics)
 production (restricted use, if possible
 use more specific term)
 -production cross section (channel cross
 section)
 programming
 -project ('experimental equipment,
 proposed' or e.g. 'accelerator,
 proposed')
 promethium
 -prompt particle (see 'direct
 production')
 propagator
 proportional chamber
 -proportional counter (proportional
 chamber)
 -proportional wire chamber (proportio-
 nal chamber)

*proposed ('experimental equipment,
proposed' or e.g. 'accelerator,
proposed')
proposed experiment
protactinium
proton synchrotron
*pseudoparticle (field equations,
pseudoparticle)
-pseudoparticle solution (field
equations, pseudoparticle)
*pseudoscalar (restricted use)
pseudoscalar meson
-pseudoscalar meson dominance (model,
meson dominance)

*pseudovector ((restricted use) when
'pseudovector' and 'vector meson'
applicable, use 'vector meson' only)
psi mesons
-psi(3100) (J/psi(3100))
psi(3685)
psi(3770)
psi(4030)
psi(4160)
psi(4415)
*PT ('invariance, PT' or 'violation, PT')
-pulse-height analyzer
(analog-to-digital converter)
pulsed magnet

Q region

- QCD (quantum chromodynamics)
- QED (quantum electrodynamics)
- QFD (quantum flavordynamics)
- QFT (field theory)
- quadrupole lens
- quantameter ('ionization chamber' and 'beam monitoring')
- quantization
- quantum chromodynamics
- quantum electrodynamics
- quantum field theory (field theory)
- quantum flavordynamics
- quantum gravity
- quantum mechanics
- quantum number
- quantum statistics (statistical mechanics)
- quark
- quark antiquark
- quark gluon (see also 'field theory, asymptotic freedom')

- quark intermediate boson
- quark line rule (selection rule, Iizuka-Okubo-Zweig)
- quark model (quark)
- *quark parton (model, quark parton)
- quark quark
- quark rearrangement (model, constituent interchange)
- *quark recombination (model, quark recombination)
- *quarkonium (quark, quarkonium)
- *quartet (quark, quartet)
- *quasiclassical (approximation, quasiclassical)
- quasielastic scattering (use 'elastic scattering')
- quasiparticle (model, Fermi gas)
- *quasipotential (model, quasipotential)
- *quaternion (algebra, quaternion)
- *quintet (quark, quintet)
- Q1(1280)
- Q2(1400)

- radiation**
- radiation detector (not used; see more specific keywords)
- radiation dose (dosimetry)
- radiation effect (radiation, effect)
- radiation length**
- radiation protection**
- *radiative capture
- radiative correction**
- *radiative decay (see also 'electromagnetic decay')
- radioactivity**
- radiochemistry ('radioactivity' and 'chemistry')
- radium**
- radon**
- range-energy relation (energy loss)
- *rapidity
- *Rarita-Schwinger (field equations, Rarita-Schwinger)
- *ratio (e.g. 'total cross section, ratio' or 'width, ratio')
- reaction amplitude ('scattering amplitude' (restricted use), only in cases of central importance)
- *readout (digital logic, readout)
- real time ('control system' or 'computer, on-line')
- recoil**
- *reflection
- *regeneration (K0, regeneration)
- Regge cut** (only for papers treating models)
- Regge poles**
- Regge trajectories (Regge poles)
- Reggeon ('Regge poles' or 'Reggeon field theory')
- Reggeon field theory**
- *Reggeon particle (scattering, Reggeon particle)
- *regularization (renormalization, regularization)
- *relativistic
- relativity theory**
- *renormalizable (field theoretical model, renormalizable)
- renormalization**
- renormalization group**
- *representation ('group theory, representation'; see also 'Mandelstam representation' or 'spectral representation')
- rescattering (multiple scattering)
- resistive-wall effect ('beam instability' or 'beam dynamics')
- *resolution (e.g. 'experimental equipment, resolution')
- resonance** (restricted use for 'model, resonance')
- *resonance dominance (model, resonance dominance)
- resonance interaction model (model, overlapping resonances)
- *resonance scattering (model, resonance scattering)
- review**
- RF cavity (RF system)
- RF field (RF system)
- RF separator (use 'particle separator' and possibly 'beam transport')
- RF system**
- RFT (Reggeon field theory)
- rhodium**
- rho dominance model (model, vector dominance)
- *rho(1250) (postulated particle, rho(1250))
- rho(1600)**
- *rho(1710) (postulated particle, rho(1710))
- rho(770)**
- rho(770)+**
- rho(770)-**
- *rho(770)-omega(783) (interference, rho(770)-omega(783))
- rho(770)0**
- rho-omega (interference, rho(770)-omega(783))
- rhodium**
- *right-handed (current, right-handed)
- *ring imaging (Cherenkov counter, ring imaging)
- *rishon (model, rishon)
- Roper resonance (N(1470))
- *Rosenbluth formula ('exchange, one-photon' and, e.g., 'electron p, Rosenbluth formula')
- *rotational (symmetry, rotational)
- *rotational state (model, rotational state)
- *rotator (model, rotator)
- rubber**
- rubidium**
- ruthenium**
- Rutherford ES (NINA ES)
- Rutherford PS (NIMROD PS)



- S(1935)
 S*(1980)
 S-matrix
 -S-wave (partial wave)
 *Saclay Linac
 *Saclay PS
 safety (For aspects other than nuclear.
 See also 'health physics' or
 'dosimetry' or 'shielding'.)
 *Sakata (model, Sakata)
 *Salam-Weinberg (field theoretical
 model, Salam-Weinberg)
 samarium
 *sandwich (scintillation counter,
 sandwich)
 *Saskatoon Linac
 *satellite (used in connection with
 cosmic radiation experiments)
 -Saxon-Woods ('potential' or 'potential
 scattering')
 *scalar (restricted use)
 scalar meson
 -scalar meson dominance (model, meson
 dominance)
 -scale invariance (scaling)
 scaling (also used for scale invariance;
 for scaling violation: 'scaling,
 violation')
 scandium
 scattering (restricted use)
 scattering amplitude (restricted use,
 only for cases of central importance;
 see also 'S-matrix')
 scattering length
 *Schroedinger equation ('quantum
 mechanics, Schroedinger equation';
 only for papers on relativistic
 quantum mechanics)
 *Schwinger (field theoretical model,
 Schwinger)
 -Schwinger source theory (field theory)
 *Schwinger terms (current algebra,
 Schwinger terms)
 scintillation counter
 *screening (effect, screening)
 *sea (quark, sea)
 *seagull (effect, seagull)
 search for (only for experimental
 searches for postulated particles)
 -second quantization (quantization)
 *second-class current (weak interaction,
 second-class current)
 *secondary beam (see also 'separated
 beam')
 -secondary particle
 secondary radiation
 -sector-focusing cyclotron (cyclotron,
 isochronous)
 -security ('safety' or 'health physics' or
 'dosimetry' or 'shielding' or 'radiation
 protection')
 selection rule
 selenium
 -self-consistent calculation ('bootstrap'
 or, if quantum mechanics,
 'approximation, Hartree-Fock')
 -self-coupling (not used)
 -self-dual solution (field equations, inst-
 anton)
 -self-energy (propagator,
 renormalization)
 -self-interaction (renormalization)
 -semiclassical ('approximation,
 quasiclassical' or 'approximation,
 WKB')
 semiconductor
 semiconductor detector (see also
 'solid-state counter')
 -semiinclusive reaction (use 'inclusive
 reaction')
 *semileptonic decay
 *Sendai Linac
 *separable potential (model, separable
 potential)
 *separated beam
 *separated-orbit (cyclotron,
 separated-orbit)
 *septet (quark, septet)
 *septum (magnet, septum)
 *serial highway (CAMAC system, serial
 highway)
 *Serpukhov PS
 *sextet (quark, sextet)
 -sextupole lens (quadrupole lens, special
 focusing)
 -shadow scattering ('model, optical' or
 'model, vector dominance')
 *shadowing (effect, shadowing)
 *shell (model, shell)
 shielding
 *shock waves (model, shock waves)
 *short-distance behavior (field theory,
 short-distance behavior)
 *short-range (used only as 'correlation,
 short-range'; not used for
 short-range forces)
 -shower counter (shower detector)
 shower detector
 -shower spectrometer (shower detector)
 showers
 -shrinkage (high energy behavior)
 *sigma ('field theoretical model, sigma';
 see also 'CP(N-1)')
 Sigma (only for the hyperon)
 Sigma Antisigma
 Sigma deuteron
 Sigma light nucleus
 -sigma model (field theoretical model,
 sigma)
 Sigma nucleus
 -sigma term model (use 'symmetry,
 chiral' and, e.g., 'meson nucleon,
 interaction')
 Sigma(1385) (partial wave P'13)
 *Sigma(1480) (postulated particle,
 Sigma(1480))
 *Sigma(1560) (postulated particle,
 Sigma(1560))

*Sigma(1580) (partial wave S'13; 'postulated particle, Sigma(1580)')
 *Sigma(1620) (partial wave S'11; 'postulated particle, Sigma(1620)')
 Sigma(1660) (partial wave P'11)
 Sigma(1670) (partial wave D''13)
 *Sigma(1670) (postulated particle, Sigma(1670))
 *Sigma(1690) (postulated particle, Sigma(1690))
 Sigma(1750) (partial wave S''11)
 Sigma(1765) (partial wave D15)
 *Sigma(1770) (partial wave P''11; 'postulated particle, Sigma(1770)')
 *Sigma(1840) (partial wave P''13; 'postulated particle, Sigma(1840)')
 *Sigma(1880) (partial wave P'''11; 'postulated particle, Sigma(1880)')
 Sigma(1915) (partial wave F'15)
 Sigma(1940) (partial wave D'''13)
 *Sigma(2000) (partial wave S'''11; 'postulated particle, Sigma(2000)')
 Sigma(2030) (partial wave F17)
 *Sigma(2070) (partial wave F''15; 'postulated particle, Sigma(2070)')
 *Sigma(2080) (partial wave P'''13; 'postulated particle, Sigma(2080)')
 *Sigma(2100) (partial wave G17; 'postulated particle, Sigma(2100)')
 Sigma(2250)
 Sigma(2455)
 Sigma(2620)
 *Sigma(3000) (postulated particle, Sigma(3000))
 *Sigma(3170) (postulated particle, Sigma(3170))
 Sigma+
 Sigma+ deuteron
 Sigma+ light nucleus
 Sigma+ nucleus
 Sigma-
 Sigma- deuteron
 Sigma- light nucleus
 Sigma- nucleus
 Sigma/c(2430)
 Sigma0
 silicon
 silver
 *SIN Cycl
 *sine-Gordon ('field equations, sine-Gordon' or 'quantum mechanics, sine-Gordon')
 -single particle (see 'one-particle'; also 'inclusive reaction')
 -single-arm spectrometer (magnetic spectrometer)
 -single-loop approximation ('Feynman graph, higher-order' or 'dual field theory, higher-order')
 *six-dimensional ('field theory, six-dimensional' or 'quantum electrodynamics, six-dimensional' or 'quantum chromodynamics, six-dimensional' or 'quantum flavordynamics, six-dimensional')
 -skeleton (Feynman graph)
 *SL(2,C) ('symmetry, SL(2,C)' or 'group theory, SL(2,C)' or 'field theory, SL(2,C)' or 'gauge field theory, SL(2,C)')
 *SLAC Linac (at Stanford)
 *SLAC PEP Stor (at Stanford)
 *SLAC SLC Linac (e+ e- linear collider at Stanford)
 *SLAC SPEAR Stor (at Stanford)
 *Slavnov identity (gauge field theory, Slavnov identity)
 -Slavnov-Taylor identity (gauge field theory, Slavnov identity)
 -SLC (SLAC SLC Linac)
 *small-angle
 *SO(N) ('symmetry, SO(N)' or 'group theory, SO(N)' 'field theory, SO(N)' or 'gauge field theory, SO(N)')
 *SO(10) ('symmetry, SO(10)' or 'group theory, SO(10)' or 'field theory, SO(10)' or 'gauge field theory, SO(10)')
 *SO(2) ('symmetry, SO(2)' or 'group theory, SO(2)' 'field theory, SO(2)' or 'gauge field theory, SO(2)')
 *SO(2,2) ('symmetry, SO(2,2)' or 'group theory, SO(2,2)' or 'field theory, SO(2,2)' or 'gauge field theory, SO(2,2)')
 *SO(3) ('symmetry, SO(3)' or 'group theory, SO(3)' 'field theory, SO(3)' or 'gauge field theory, SO(3)')
 *SO(4) ('symmetry, SO(4)' or 'group theory, SO(4)' 'field theory, SO(4)' or 'gauge field theory, SO(4)')
 sodium
 *sodium-iodide (e.g. 'total-absorption counter, sodium-iodide')
 -soft photon (radiative correction)
 -soft pions ('current algebra, effective Lagrangians' or 'model, PCAC')
 -software (programming)
 *solenoid (magnet, solenoid)
 solid-state counter (see also 'semiconductor detector')
 solids
 *soliton (field equations, soliton)
 -soliton solution (field equations, soliton)
 *solution ('field equations, solution'; if possible use more specific term)
 -Sommerfeld-Watson transformation (Regge poles)
 -sonic spark chamber (spark chamber, acoustic)
 -source ('field theory' or 'particle source')
 -source algebra (current algebra)
 *space
 *space charge (for accelerators only)
 *Space Rad Lab Linac
 *space-time (field theory, space-time)

- spallation (fission)
- spark chamber**
- *spatial distribution (only used for cosmic radiation; see also 'angular distribution')
- *spatial resolution (e.g. 'drift chamber, spatial resolution')
- SPEAR (SLAC SPEAR Stor)
- *special focusing ('quadrupole lens, special focusing'; see also 'beam focusing')
- *spectator ('model, spectator', possibly also 'deuteron, model')
- spectra**
- spectral function ('spectral representation' or 'Mandelstam representation')
- spectral representation**
- spectrometer** (restricted use)
- *sphericity (jet, sphericity)
- spin**
- spin flip (amplitude analysis)
- spin nonflip (amplitude analysis)
- spin-parity analysis (partial wave analysis)
- *spinless ((restricted use), not used for bosons)
- spinor**
- spinor field theory (field theory, spinor)
- *Split-Field (at CERN ISR; 'magnetic detector, Split-Field')
- splitting (mass difference)
- *spontaneously broken (symmetry, spontaneously broken)
- *stack ('counters and detectors, stack' or 'nuclear emulsion, stack')
- *stacking ('injection, stacking' and 'storage ring')
- *Stanford Linac MK3
- static model (model, Chew-Low)
- stationary phase (mathematical methods, path integral)
- *statistical
- statistical analysis** (restricted to basic papers)
- statistical bootstrap (bootstrap, statistical)
- statistical mechanics**
- statistical tensor (spin, density matrix)
- statistics**
- status report (activity report)
- steel (use 'iron')
- *stochastic (restricted use; 'quantization, stochastic')
- *stochastic cooling (beam cooling, stochastic cooling)
- storage ring** (for accelerator aspects only; for experimental results use 'colliding beams')
- strange baryon**
- strange meson**
- strange particle**
- strangeness**
- *strangeness changing (current, strangeness changing)
- straton (quark)
- streamer chamber**
- stress-energy (see 'energy-momentum')
- *string (model, string)
- *strip (approximation, strip)
- strong absorption (model, absorption)
- *strong coupling (model, strong coupling)
- strong coupling expansion (perturbation theory, strong coupling)
- strong interaction**
- strontium**
- *structure function
- *SU(N) ('symmetry, SU(N)' or 'group theory, SU(N)' or 'field theory, SU(N)' or 'gauge field theory, SU(N)')
- *SU(N) x SU(N) ('symmetry, SU(N) x SU(N)' or 'group theory, SU(N) x SU(N)' or 'field theory, SU(N) x SU(N)' or 'gauge field theory, SU(N) x SU(N)')
- *SU(1,1) ('symmetry, SU(1,1)' or 'group theory, SU(1,1)' or 'field theory, SU(1,1)' or 'gauge field theory, SU(1,1)')
- *SU(2) ('symmetry, SU(2)' or 'group theory, SU(2)' or 'field theory, SU(2)' or 'gauge field theory, SU(2)')
- *SU(2) x SU(2) ('symmetry, SU(2) x SU(2)' or 'group theory, SU(2) x SU(2)' or 'field theory, SU(2) x SU(2)' or 'gauge field theory, SU(2) x SU(2)')
- *SU(2) x SU(2) x U(1) ('symmetry, SU(2) x SU(2) x U(1)' or 'group theory, SU(2) x SU(2) x U(1)' or 'field theory, SU(2) x SU(2) x U(1)' or 'gauge field theory, SU(2) x SU(2) x U(1)')
- *SU(2) x U(1) ('symmetry, SU(2) x U(1)' or 'group theory, SU(2) x U(1)' or 'field theory, SU(2) x U(1)' or 'gauge field theory, SU(2) x U(1)')
- *SU(2) x U(1) x SU(3) ('symmetry, SU(2) x U(1) x SU(3)' or 'group theory, SU(2) x U(1) x SU(3)' or 'field theory, SU(2) x U(1) x SU(3)' or 'gauge field theory, SU(2) x U(1) x SU(3)')
- *SU(2) x U(1) x U(1) ('symmetry, SU(2) x U(1) x U(1)' or 'group theory, SU(2) x U(1) x U(1)' or 'field theory, SU(2) x U(1) x U(1)' or 'gauge field theory, SU(2) x U(1) x U(1)')
- *SU(2)W ('symmetry, SU(2)W' or 'group theory, SU(2)W' or 'field theory, SU(2)W' or 'gauge field theory, SU(2)W')
- *SU(2,2) ('symmetry, SU(2,2)' or 'group theory, SU(2,2)' or 'field theory, SU(2,2)' or 'gauge field theory, SU(2,2)')
- *SU(3) ('symmetry, SU(3)' or 'group theory, SU(3)' or 'field theory, SU(3)' or 'gauge field theory, SU(3)')
- *SU(3) x SU(2) x U(1) ('symmetry, SU(3) x SU(2) x U(1)' or 'group theory, SU(3) x SU(2) x U(1)' or 'field theory, SU(3) x SU(2) x U(1)' or 'gauge field theory, SU(3) x SU(2) x U(1)')

$SU(2) \times U(1)$ or 'gauge field theory,
 $SU(3) \times SU(2) \times U(1)$ '
 * $SU(3) \times SU(3)$ ('symmetry, $SU(3) \times SU(3)$ '
 or 'group theory, $SU(3) \times SU(3)$ ' or
 'field theory, $SU(3) \times SU(3)$ ' or 'gauge
 field theory, $SU(3) \times SU(3)$)
 * $SU(3) \times SU(3)''$ ('symmetry, $SU(3) \times$
 $SU(3)''$ or 'group theory, $SU(3) \times$
 $SU(3)''$ or 'field theory, $SU(3) \times SU(3)''$
 or 'gauge field theory, $SU(3) \times SU(3)''$)
 * $SU(3) \times U(1)$ ('symmetry, $SU(3) \times U(1)$ '
 or 'group theory, $SU(3) \times U(1)$ ' or
 'field theory, $SU(3) \times U(1)$ ' or 'gauge
 field theory, $SU(3) \times U(1)$)
 * $SU(3)''$ ('symmetry, $SU(3)''$ or 'group
 theory, $SU(3)''$ or 'field theory, $SU(3)''$
 or 'gauge field theory, $SU(3)''$)
 * $SU(3)' \times SU(3)''$ ('symmetry, $SU(3)' \times$
 $SU(3)''$ or 'group theory, $SU(3)' \times$
 $SU(3)''$ or 'field theory, $SU(3)' \times$
 $SU(3)''$ or 'gauge field theory, $SU(3)' \times$
 $SU(3)''$)
 * $SU(3)'''$ ('symmetry, $SU(3)'''$ or 'group
 theory, $SU(3)'''$ or 'field theory,
 $SU(3)'''$ or 'gauge field theory, $SU(3)'''$)
 * $SU(4)$ ('symmetry, $SU(4)$ or 'group
 theory, $SU(4)$ or 'field theory, $SU(4)$ '
 or 'gauge field theory, $SU(4)$)
 * $SU(4) \times SU(4)$ ('symmetry, $SU(4) \times SU(4)$ '
 or 'group theory, $SU(4) \times SU(4)$ ' or
 'field theory, $SU(4) \times SU(4)$ ' or 'gauge
 field theory, $SU(4) \times SU(4)$)
 * $SU(5)$ ('symmetry, $SU(5)$ or 'group
 theory, $SU(5)$ or 'field theory, $SU(5)$ '
 or 'gauge field theory, $SU(5)$)
 * $SU(6)$ ('symmetry, $SU(6)$ or 'group
 theory, $SU(6)$ or 'field theory, $SU(6)$ '
 or 'gauge field theory, $SU(6)$)
 * $SU(6) \times O(3)$ ('symmetry, $SU(6) \times O(3)$ ' or
 'group theory, $SU(6) \times O(3)$ ' or 'field
 theory, $SU(6) \times O(3)$ ' or 'gauge field
 theory, $SU(6) \times O(3)$)
 * $SU(6)W$ ('symmetry, $SU(6)W$ or 'group
 theory, $SU(6)W$ or 'field theory.

$SU(6)W'$ or 'gauge field theory,
 $SU(6)W'$)
 * $SU(8)$ ('symmetry, $SU(8)$ or 'group
 theory, $SU(8)$ or 'field theory, $SU(8)$ '
 or 'gauge field theory, $SU(8)$)
 -substructure ('model, composite' or
 'model, prequark')
 *Sugawara (model, Sugawara)
 sulfur
 sum rule
 superconducting (for apparatus; also
 used theoretically: 'model,
 superconducting')
 -superconductivity (see
 'superconducting')
 *superconvergence (sum rule,
 superconvergence)
 -superfield (supersymmetry)
 -supergauge ('gauge field theory' and
 'supersymmetry')
 -supergravity (supersymmetry)
 -supermultiplet ('multiplet' and
 'supersymmetry')
 *superpropagator (propagator,
 superpropagator)
 *superrenormalizable (field theoretical
 model, superrenormalizable)
 *superselection rule (sum rule,
 superselection rule)
 supersymmetry
 *superweak interaction (weak
 interaction, superweak interaction)
 symmetry
 symmetry breaking
 synchro-cyclotron
 -synchrophasotron ('synchrotron' or
 'proton synchrotron' or 'electron
 synchrotron')
 synchrotron
 synchrotron oscillation
 synchrotron radiation
 -SYRIUS (Tomsk ES)

- *T0(2150) (postulated particle, T0(2150))
- *T1(2190) (postulated particle, T1(2190))
- T-invariance (invariance, time reversal)
- T-matrix (S-matrix)
- *tables
- *tachyon (postulated particle, tachyon)
- *tadpole (Feynman graph, tadpole)
- *tagged beam ('photon, tagged beam' or 'electron, tagged beam')
- tantalum**
- target**
- target polarization (Use 'target, polarization' for measurement of polarization degree. See also 'polarized target'.)
- *TASSO (at PETRA; 'magnetic detector, TASSO')
- tau**
- tau+**
- tau-**
- TCP (see 'CPT')
- TDC (time-to-digital converter)
- technetium**
- *technicolor (model, technicolor)
- technology (use more specific keyword)
- telescope (use more specific keyword)
- tellurium**
- temperature**
- *tensor (restricted use)
- tensor meson**
- tensor meson dominance (model, meson dominance)
- *ternon (algebra, terson)
- TEVATRON (Batavia TEVATRON PS)
- thallium**
- theory of elementary particles (particle physics)
- *thermodynamical (model, thermodynamical)
- thermodynamics**
- *thermoluminescence (counters and detectors, thermoluminescence)
- thesis** (including some masters' theses)
- *Thirring (field theoretical model, Thirring)
- thorium**
- three-body annihilation (multiple production, annihilation)
- three-body problem**
- *three-dimensional ('field theory, three-dimensional' or 'quantum electrodynamics, three-dimensional' or 'quantum chromodynamics, three-dimensional' or 'quantum flavordynamics, three-dimensional')
- three-point function (vertex function)
- threshold**
- *thrust (jet, thrust)
- thulium**
- *time
- time distribution (see 'time variation')
- *time measurement (see also 'fast logic, time-of-flight')
- *time projection ('proportional chamber, time projection' or 'drift chamber, time projection')
- *time resolution (e.g. 'spectrometer, time resolution')
- *time reversal ('invariance, time reversal' or 'violation, time reversal')
- *time variation (only used for cosmic radiation or fundamental constants)
- *time-of-flight (fast logic, time-of-flight)
- time-to-digital converter**
- time-to-pulse-height converter (fast logic)
- tin**
- titanium**
- *Tokyo ES
- *Tomsk ES
- top (quark, truth)
- *topological (charge, topological)
- topological cross section (channel cross section)
- *topological expansion (duality, topological expansion)
- total cross section** (see also 'channel cross section')
- total-absorption counter**
- *TPC (at PEP; 'magnetic detector, TPC'. For time-to-pulse-height converter use 'fast logic'. for time projection chamber see 'time projection')
- track data analysis**
- *track following ('trigger, track following' or 'microprocessor, track following')
- track measuring (use 'track data analysis, on-line' or 'track data analysis, off-line')
- track photography**
- *track sensitive (only used for tracks visualized in matter, e.g. 'plastics, track sensitive' or 'glass, track sensitive')
- tracks**
- trajectory (see 'Regge poles' or 'Regge cut'; not used for particle trajectory)
- transformation** (not used in connection with 'renormalization group')
- *transition
- *transition radiation (e.g. 'counters and detectors, transition radiation'; not used for radiative decay)
- transmission (absorption)
- *transuranium (elements, transuranium)
- *transverse (restricted use, see also 'transverse momentum')
- transverse beam oscillation (betatron oscillation)
- transverse momentum**
- *tree (approximation, tree)
- Treiman-Yang test (decay, angular distribution)
- triangle anomaly (current algebra, anomaly)
- triangle graph (Feynman graph)

trigger
 *trimuon (e.g. 'final state, trimuon')
 -triple-pomeron coupling (pomeron, coupling)
 *triple-Regge limit (inclusive reaction, triple-Regge limit)
 *triplet (quark, triplet)
 -TRISTAN (KEK TRISTAN Stor)
tritium
 *TRIUMF Cycl (at Vancouver)
 -truss graph (approximation, ladder)
 *truth (quark, truth)
truthful baryon
truthful meson
truthful particle
 *truthonium (quark, truthonium)
 -tune shift ('RF system' or 'beam optics')
tungsten
 *tunneling (effect, tunneling)

-two-body (used only as 'exchange, two-particle')
 *two-component neutrino (model, two-component neutrino)
 *two-dimensional ('field theory, two-dimensional' or 'quantum electrodynamics, two-dimensional' or 'quantum chromodynamics, two-dimensional' or 'quantum flavordynamics, two-dimensional')
 *Two-Gamma (at PEP; 'magnetic detector, Two-Gamma')
 -two-loop (Feynman graph, higher-order)
 *two-particle (exchange, two-particle)
 *two-photon (exchange, two-photon)
 *two-pion (exchange, two-pion)
 *two-point function (propagator, two-point function)

- *U(N) ('symmetry, U(N)' or 'group theory, U(N)' or 'field theory, U(N)' or 'gauge field theory, U(N)')
- *U(1) ('symmetry, U(1)' or 'group theory, U(1)' or 'field theory, U(1)' or 'gauge field theory, U(1)')
- *U(1) problem (field theory, U(1) problem)
- *U(12) ('symmetry, U(12)' or 'group theory, U(12)' or 'field theory, U(12)' or 'gauge field theory, U(12)')
- *U(2980) (postulated particle, U(2980))
- *U(3) ('symmetry, U(3)' or 'group theory, U(3)' or 'field theory, U(3)' or 'gauge field theory, U(3)')
- *U(3) x U(3) ('symmetry, U(3) x U(3)' or 'group theory, U(3) x U(3)' or 'field theory, U(3) x U(3)' or 'gauge field theory, U(3) x U(3)')
- *U(4) ('symmetry, U(4)' or 'group theory, U(4)' or 'field theory, U(4)' or 'gauge field theory, U(4)')
- *U(4) x U(4) ('symmetry, U(4) x U(4)' or 'group theory, U(4) x U(4)' or 'field theory, U(4) x U(4)' or 'gauge field theory, U(4) x U(4)')
- *U(6) ('symmetry, U(6)' or 'group theory, U(6)' or 'field theory, U(6)' or 'gauge field theory, U(6)')
- *U(6,6) ('symmetry, U(6,6)' or 'group theory, U(6,6)' or 'field theory, U(6,6)' or 'gauge field theory, U(6,6)')
- *U-spin (quantum number, U-spin)
- *UA1 (at CERN SPS Coll; 'magnetic detector, UA1')
- *UA2 (at CERN SPS Coll; 'magnetic detector, UA2')
- *UA4 (at CERN SPS Coll; 'four-pi-detector, UA4')
- *UA5 (at CERN SPS Coll; 'four-pi-detector, UA5')
- ultraviolet divergence (renormalization)
- *undulator ('radiation, undulator'; only in connection with accelerators)
- unified fermion (fermion, model)
- unified field theory (kinds of interaction which are unified are added; see also 'grand unified theory')
- unitarity (restricted use)
- *universality ('electron muon, universality' or 'weak interaction, universality' or 'strong interaction, universality' or 'electromagnetic interaction, universality')
- *up (quark, up)
- *upper limit (e.g. 'branching ratio, upper limit')
- upsilon mesons
- Upsilon(10020)
- Upsilon(10400)
- Upsilon(9460)
- uranium
- *Urbana Betatron
- *U0(2350) (postulated particle, U0(2350))
- *U1(2400) (postulated particle, U1(2400))

- V-A theory (model, weak interaction)
- *V-spin (quantum number, V-spin)
- vacuum chamber (vacuum system)
- vacuum exchange (exchange, vacuum quantum number)
- *vacuum polarization (e.g. 'field theory, vacuum polarization')
- *vacuum quantum number (exchange, vacuum quantum number)
- *vacuum state (e.g. 'field theory, vacuum state')
- vacuum system
- vacuum techniques (vacuum system)
- *valence (quark, valence)
- *validity test (restricted use for general tests but not for interpretations; e.g. 'quantum electrodynamics, validity test')
- *van Hove (model, van Hove)
- van Hove plot (multidimensional analysis, longitudinal phase space)
- vanadium
- *variable mass (model, variable mass)
- *variational (restricted use; 'mathematical methods, variational')
- *vector
- vector boson (see 'intermediate boson' or 'vector meson' or 'gauge boson')
- *vector dominance (model, vector dominance)
- vector meson
- vector meson deuteron
- vector meson light nucleus
- vector meson nucleon
- vector meson nucleus
- vector meson quark
- vector-axial-vector theory (weak interaction)
- velocity spectrometer (fast logic, time-of-flight)
- *Veneziano (model, Veneziano)
- VEPP-2 (Novosibirsk Stor2)
- VEPP-3 (Novosibirsk Stor3)
- VEPP-4 (Novosibirsk Stor4)
- vertex function
- violation
- virtual (not used)
- *von Neumann (algebra, von Neumann)
- *vortex (e.g. 'field theory, vortex')

- *W+ (postulated particle, W+)
- *W* (algebra, W*)
- *W- (postulated particle, W-)
- *Ward identity (e.g. 'field theory, Ward identity'; see also 'Ward-Takahashi identity')
- *Ward-Takahashi identity (quantum electrodynamics, Ward-Takahashi identity)
- water
- wave equation (quantum mechanics)
- *wave function (very restricted use; used only in connection with QCD or parton model; e.g. 'quantum chromodynamics, wave function')
- *wave length shifter (scintillation counter, wave length shifter)
- wave packet (quantum mechanics)
- waveguide ('RF system' or 'linear accelerator' or 'microwaves')
- *weak coupling (lattice, weak coupling)
- *weak current
- weak interaction**
- *Weinberg angle (weak interaction, Weinberg angle)
- Weizsaecker-Williams (approximation, equivalent photon)
- Wess-Zumino (supersymmetry)
- *Weyl (algebra, Weyl)
- *Wick-Cutkosky (model, Wick-Cutkosky)
- *wide-angle ('spectrometer, wide-angle' or, e.g., 'elastic scattering, wide-angle')
- *wide-gap (spark chamber, wide-gap)
- *width (usage in accordance with Rosenfeld tables; see also 'decay width')
- *wiggler (magnet, wiggler)
- Wightman fields (axiomatic field theory)
- Wightman function (axiomatic field theory)
- *Wigner-Weisskopf (model, Wigner-Weisskopf)
- Wilson expansion (field theory, short-distance behavior)
- *Wilson loop (gauge field theory, Wilson loop)
- *wire (spark chamber, wire)
- *WKB (approximation, WKB)
- Wolf method (correction, off-shell)
- Woods-Saxon ('potential' or 'potential scattering')
- *Wu-Yang (model, Wu-Yang)

*X(1410-1440) (postulated particle,
X(1410-1440))
 *X(1690) (postulated particle, X(1690))
 *X(1900-3600) (postulated particle,
X(1900-3600))
 *X(2200) (postulated particle, X(2200))
 *X(2830) (postulated particle, X(2830))
 *x-dependence
 xenon
 Xi
 Xi deuteron
 Xi light nucleus
 Xi nucleus
 Xi(1530) (partial wave P13)
 *Xi(1630) (postulated particle, Xi(1630))
 *Xi(1680) (partial wave S11; 'postulated
particle, Xi(1680)')

Xi(1820)
 *Xi(1940) (postulated particle, Xi(1940))
 Xi(2030)
 *Xi(2120) (postulated particle, Xi(2120))
 *Xi(2250) (postulated particle, Xi(2250))
 *Xi(2370) (postulated particle, Xi(2370))
 *Xi(2500) (postulated particle, Xi(2500))
 Xi-
 Xi- deuteron
 Xi- light nucleus
 Xi- nucleus
 Xi0
 Xi0 deuteron
 Xi0 light nucleus
 Xi0 nucleus
 *XY (field theoretical model, XY)

-Y* (baryon resonance, hyperon)
*y-dependence
*Yang-Mills (gauge field theory,
Yang-Mills)
*yield (Used in combination with
particles; only where yield is given
without cross sections.)

ytterbium
yttrium
*Yukawa (potential, Yukawa)

*Z(N) ('symmetry, Z(N)' or 'group theory,
Z(N)' or 'field theory, Z(N)' or 'gauge
field theory, Z(N)')
*Z(2) ('symmetry, Z(2)' or 'group theory,
Z(2)' or 'field theory, Z(2)' or 'gauge
field theory, Z(2)')
Z (baryon resonance, Z*)
-ZGS (Argonne PS)
zinc
zirconium
-Zweig rule (selection rule,
Iizuka-Okubo-Zweig)

*Z0 (postulated particle, Z0)
*Z0(1780) (partial wave P01; 'postulated
particle, Z0(1780)')
*Z0(1865) (partial wave D03; 'postulated
particle, Z0(1865)')
*Z1(1900) (partial wave P13; 'postulated
particle, Z1(1900)')
*Z1(2150) (postulated particle, Z1(2150))
*Z1(2500) (postulated particle, Z1(2500))