Index

ℓ-dimensional representation, 28

Young graph, 123

abelian, 17
adjoint representation, 61
alternating group, 24
associativity, 12

bijective, 17
Bloch states, 10

Cartan subalgebra, 67, 85
center, 19
center, 19
character, 39
chiral superfield, 198
Clebsch-Gordon coefficients, 74
closure, 12
color SU(3), 91
commutes, 8
compact, 51
conjugacy classes, 18
conjugate, 18
connected component, 50
continuity, 50
coset, 19
covariant derivative, 140
covering group, 60
crystallographic, 46
defining representation, 70, 92, 111
direct product, 21, 47
direct sum, 31
discrete, 50
equivalence classes, 18
equivalence relation, 18
equivalent representations, 28
faithful, 28
field strength tensor, 145
flavor SU(3), 91
fully reducible, 31
fundamental representations, 109
fundamental weights, 109
gauge condition, 148
generates, 17
global symmetry, 137
Goldstone boson, 169
great orthogonality theorem, 35
group, 12
group algebra, 121
Haar, 160
highest weight state, 68
homomorphism, 17
hooks, 126
Hurwitz, 160
ideal, 62
identity, 12
identity representation, 28
index, 20
invariant subalgebra, 62
invariant subspace, 29
irreducible representation, 29
isomorphic, 17
Jacobi identity, 57
kernel, 23
Killing form, 62
lattice vectors, 49
left coset, 19
Lie Algebra, 56
locally isomorphic, 60
Lorentz algebra, 64
Lorentz group, 63
Lorenz gauge, 148
Minkowski metric, 63
module, 9
normal subgroup, 20
order, 11, 20
parity invariant, 7
permissible placement, 131
permutations, 23
placquette, 143
Poincaré group, 63
point groups, 46
positive, 95
proper subspace, 29
pseudo-orthogonal, 63
quotient group, 20
rank, 85
rearrangement theorem, 16
reduced matrix element, 77
reducible representation, 29
reflexive, 18
regular representation, 37
relation, 18
representation, 9
roots, 86
semisimple, 62
simple, 62
simple root, 96
simply connected, 51
space, 46
spherical harmonics, 9
spontaneous symmetry breaking, 168
standard tableaux, 126
structure constants, 56
subgroup, 16
symmetric, 18
symmetric group, 23
temporal gauge, 152
tensor product, 47
topological groups, 50
transitive, 18
transpositions, 24
ultraviolet divergences, 140
unitary representation, 29
Vector coupling coefficients, 74
Vierergruppe, 25
weight vector, 85
weights, 85
Wigner-Eckhart theorem, 77
Young operator, 124
Young tableau, 124