Index

(extended) supersymmetry algebra, 69
\( \mathcal{N} = 1 \) superconformal algebra, 8
\( \mathcal{N} = 2 \) Superconformal algebra, 46
\( \mathcal{N} = 4 \) Superconformal algebra, 80
4D-5D connection, 75

A-roof (Dirac) genus, 234
ALE space, 28
almost complex structure, 229
attractor equation, 97
attractor flow tree, 102
attractor mechanism, 96

Borcherds’ lift, 185
Borcherds-Kac-Moody algebra, 187
BPS (Bogomolny-Prasad-Sommerfield) bound, 71
Bruhat order, 227
Buscher Rules, 14

Calabi-Yau manifold, 235
Cartan matrix (generalised), 187
central charge matrix, 71
chern character, 234
Chern class, 232
chiral primary field, 48
complex manifold, 229
complex structure moduli, 61
conformal symmetry, 6
connection one-form, 231
Coxeter group, 181, 225
Coxeter system, 225
critical dimension, 6
curvature two-form, 231

D-branes, 15
Dabholkar-Harvey states, 175
decompactification limit, 20
Dedekind eta-function, 175
denominator formula, 188
dihedral group, 182
Dirac-Born-Infeld action, 31
Donaldson-Thomas invariants, 55
dual lattice, 60

Eguchi-Hanson space, 28, 238
Einstein frame, 18
eleven-dimensional supergravity, 15
elliptic genus, 56
entropy function, 102
even root, 188
extended S-duality group, 181

Faddeev-Popov ghosts, 6
Farey series, 223
fibre bundle, 230
fundamental Weyl chamber, 182

Gauss-Bonnet theorem, 233
ghost field, 6
Gibbons-Hawking metric, 24
Gopakumar-Vafa invariants, 55
gravitational instanton, 24
Gromov-Witten invariants, 55
GSO (Gliozzi-Scherk-Olive) projection, 11

253
hermitian metric, 230
heterotic string theory, 86
highest weight state, 48
Hirzebruch $\hat{L}$–polynomial, 234
Hirzebruch-Riemann-Roch Theorem, 234
Hodge diamond, 236
Igusa cusp form, 186
imaginary roots, 187
Kähler form, 230
Kähler manifold, 230
Kähler moduli, 61
level matching condition, 175
M-theory, 21
multi-hole, 98
Nambu-Goto action, 30
Nijenhuis tensor, 229
non-linear sigma model, 47
nuts and bolts, 28
odd root, 188
OSV (Ooguri-Strominger-Vafa) conjecture, 78
Planck length (ten-dimensional), 19
Poisson resummation, 59
polar part, 59
Pontrjagin class, 234
positive root, 181, 227
PQ (Peccei-Quinn) symmetry, 68
prepotential, 65
primary field, 48
Ramond ground state, 9, 48
rational quadratic divisor, 185
real roots, 181
RNS (Ramond-Neveu-Schwarz) action, 5
root, 188, 227
root space, 188
Siegel modular form, 184
Siegel theta function, 59
Siegel upper-half plane, 184
signature index theorem, 233
simple roots, 181
special coordinates, 64
special geometry, 61
special Kähler manifold, 61, 234
split attractor flow, 102
Stern-Brocot tree, 223
string frame, 18
structure group, 230
superconformal symmetry, 6
supersymmetry algebra, 69
T-duality, 12, 15
Taub-NUT space, 24
theta function, 59
Tits cone, 227
topological string partition function, 55
type IIA, IIB supergravity, 17
upper half-plane, 36
vector bundle, 231
vector-valued modular forms, 60
walls of marginal stability, 99
weak Bruhat order, 227
weak Jacobi form, 60
Weil-Peterson metric, 62
Weyl chamber, 182
Weyl group, 181, 188
Weyl vector, 188
Yau’s theorem, 235