

Index

- N-gradable weak module, 66
- adjoint module, 46
- admissible module, 66
- affine Lie algebra, 19
- associativity, 40
- associativity formula, 39
- Borcherds identity
 - for local fields, 28
 - for vertex algebras, 36
- Cauchy-Jacobi identity, 65
- central charge, 21
- chiral quantum field, 7
- commutativity, 11, 39
- commutator formula, 39
- conformal algebra, 40
- conformal vector, 63
- conformal vertex algebra, 63
- contraction, 16
- creative field, 49
- critical level, 34
- currents, 20
- direct product
 - of vertex algebras, 41
- duality, 40
- energy-momentum tensor, 23
- field, 7
- Fourier mode, 6
- graded vertex algebra, 59
- Griess algebra, 71
- homomorphism, 36
- ideal, 41
- identity field, 8
- intertwiner, 47
- invariant bilinear form, 66
- isomorphism, 37
- module
 - for a vertex algebra, 45
 - for a vertex operator algebra, 66
- mutually local, 12
- normally ordered product, 9
- number current, 82
- operator product expansion, 16
- order of locality, 12
- pairwise mutually local, 43
- primary state, 63
- q-vacuum, 82
- quantum operator algebra, 44
- quasiconformal vertex algebra, 61
- quasiprimary state, 62
- quotient vertex algebra, 41
- radial ordering, 10
- rank, 65
- residue, 9
- residue product, 9
- Segal-Sugawara form, 34
- series, 6
- skew symmetry
 - for fields, 29

for vertex algebras, 38
tensor product
 of fields, 18
 of vertex algebras, 42
translation covariance, 38
translation covariant field, 53

vacuum vector, 36
vertex algebra, 35
vertex algebra of local fields, 44
vertex Lie algebra, 40
vertex operator, 88
vertex operator algebra, 64
vertex subalgebra, 41
Virasoro algebra, 21
Virasoro element, 65
Virasoro vector, 62

weak module, 65
Wick's formula, 79

Zhu's algebra, 76