

Index

- $\langle \Delta \rangle$, 21
- C^{-1} , 101
- $E_2^{a-s,s}$, 153
- $E_\infty^{a-s,s}$, 153
- $H_{DR}^b(X/k)$, 82
- $Res_D(\nabla)$, 14
- $S^b(X, \mathcal{M})$, 134
- $W_2(k)$, 85
- $[\Delta]$, 19
- $\Omega_X^a(\log D)$, 11
- $\Omega_X^a(*D)$, 11
- $\Omega_{X/\tilde{S}}^a(\log \tilde{D})$, 89
- \mathbb{Q} -divisors, 19
- $\mathbb{H}^a(X, \mathcal{F}^\bullet)$, 150
- $\kappa(\mathcal{L})$, 44
- $[\Delta]$, 21
- $\nu(\mathcal{L})$, 47
- $\omega_X\{\frac{-D}{N}\}$, 67
- $\tau_{\leq 1} F_* \Omega_{X/S}^\bullet(\log D)$, 105
- $cd(X, D)$, 38
- $e(D)$, 67
- $e(\mathcal{L})$, 67
- f -numerically effective, 59
- f -semi-ample, 59
- l -ample, 56
- $r(U)$, 17, 40
- $r(g)$, 40
- $\mathcal{C}_X(D, N)$, 67
- $\mathcal{L}^{(i)}$, 19
- $\mathcal{L}^{(i,D)}$, 19
- Čech complex, 148

- Absolute Frobenius, 93
- Acyclic resolution, 151
- Adjoint linear systems on surfaces, 80
- AKNV, 83
- Albanese variety, 137
- Analytic de Rham complex, 147

- Bounds for $e(\mathcal{L})$, 69

- Cartier operator, 101
- Cohomological dimension
 - $cd(X, D)$, 38
 - $r(U)$, 17
 - $r(g)$, 40
 - coherent, 38
- Condition (*), 16
- Condition (!), 16
- Connection
 - logarithmic, 14
- Covering construction
 - Kawamata, 30, 31
- Cyclic cover, 22
 - n -th root out of D , 22
 - induced connection, 28
 - their residues, 28
 - via geometric vector bundles, 27
 - with quotient singularities, 34
- cyclic cover
 - ramification index, 27
 - singularities, 27

- de Rham cohomology, 82
- de Rham complex
 - logarithmic, 14
 - E_1 degeneration, 19
- Deformation
 - of cohomology groups, 132
 - of quotient singularities, 75
- Degeneration
 - of spectral sequences, 156
 - of the Hodge to de Rham spectral sequence, 121
 - for unitary local systems, 139
- Differential forms
 - logarithmic, 11
 - exact sequences, 13

- Filtrations
 - on hypercohomology groups, 151

- General vanishing theorem
 - for cohomology groups, 39
 - for restriction maps, 36, 38
 - with analytic methods, 41
- Generic vanishing
 - Green Lazarsfeld, 137

- Generic vanishing theorems
 - for nef \mathbb{Q} -divisors, 140
- Hurwitz's formula, 28
 - generalized, 33
- Hypercohomology group, 150
- Itaka-dimension, 44
 - numerical, 47
- Injective resolution, 150
- Integral part of a \mathbb{Q} -divisor, 19
- Isomorphism of liftings, 90
- Kodaira-dimension, 44
 - numerical, 47
- Liftings of a scheme, 84
- Multiplier ideals, 67
- Numerically effective (nef), 45
- One step filtration, 153
- Poincaré bundle, 137
- Quasi-isomorphism, 147
- Reider's theorem, 80
- Relative Frobenius, 94
- Relative vanishing theorem
 - for f -numerically effective \mathbb{Q} -divisors, 59
 - for \mathbb{Q} -divisors, 49
 - for log differentials, 33
- Residue map, 14
- Second Witt vectors, 85
- Semi-ample, 45
- Semipositivity theorem
 - Fujita, 73
- Spectral sequence, 152
 - conjugate, 158
 - Hodge to de Rham, 82, 157
 - Leray, 159
- Splitting cohomology class, 108
- Splitting of $\tau_{\leq 1} F_* \Omega_{X/S}^{\bullet}(\log D)$, 106, 114
- Surfaces of general type
 - semi-ampleness of the canonical sheaf, 65
- Tensor product of complexes, 149
- Torsion freeness
 - Kollár, 60
- Two step filtration, 153
- Two term de Rham complex, 105
- Vanishing theorem
 - Akizuki Kodaira Nakano, 4, 56
 - Bauer Kosarew, 62
 - Bogomolov Sommese, 58
 - Deligne Illusie Raynaud, 83, 129
 - for differential forms with values in l -ample sheaves, 56
 - for direct images, 63
 - for local systems, 17
 - for logarithmic differential forms with values in Kodaira integral parts of \mathbb{Q} -divisors, 54
 - for multiplier ideals, 63, 71
 - for restriction maps related to \mathbb{Q} -divisors, 42, 49
 - Grauert Riemenschneider, 45
 - in characteristic $p > 0$, 43
 - Kawamata Viehweg, 49
 - Kodaira, 4
 - Kollár, 45
 - Serre, 4
- Zeros of polynomials, 72