

List of Notations

\bar{a}	the characteristic element (if $\alpha = 0$) of the root invariant $R(X, \theta)$	41
a	one of main invariants: $(S^*/S) \cong (\mathbb{Z}/2\mathbb{Z})^a$, of $Z, Y, (X, \theta)$..	30
A_n	Dynkin diagram, Du Val singularity, root system of type A_n ..	5
b	a finite symmetric bilinear form	117
$b_\theta^{(p)}(p^k)$	one of elementary finite symmetric bilinear forms	118
b_M	the discriminant bilinear form of a lattice M	118
$\det(M)$	the determinant of a lattice M	118
$\text{Duv}(\cdot)$	the Du Val part of (\cdot)	61
D_n	Dynkin diagram, Du Val singularity, root system of type D_n ..	5
E_n	Dynkin diagram, Du Val singularity, root system of type E_n ..	5
g	genus of a non-singular curve in $ -2K_Z $ or of moving part of $ -2K_Y $, maximal genus g of a component of X^θ , $g = (22 - r - a)/2$	31
H	a part (kernel) of the root invariant $R(X, \theta)$	41
\mathcal{H}_β	hyperplane orthogonal to β of hyperbolic space	24
\mathcal{H}_β^+	half-space orthogonal to β of hyperbolic space	24
k	number of exceptional -4 curves on Y ; number of double transparent vertices of the graph Γ ; number of genus 0 curves of X^θ ; $k = (r - a)/2$	31
(k, g, δ)	alternative main invariants of $Z, Y, (X, \theta)$	32
K	a part (the root lattice K or $K(2)$) of the root invariant $R(X, \theta)$	40
K_H	the overlattice of K related to the root invariant $R(X, \theta)$	44
K_n	log terminal singularities of index 2	18
$K_\theta^{(p)}(p^k)$	one of (with rank 1) elementary p -adic lattices	118
$\text{Log}(\cdot)$	the logarithmic part of (\cdot)	61
$l(\mathfrak{A})$	the minimal number of generators of a finite Abelian group \mathfrak{A}	45