

Index of Symbols

$(\cdot, \cdot)_{\mathcal{E}}$	Petersson metric on $\mathcal{E}$	120
$(\cdot, \cdot)_{\mathcal{L}}$	Petersson metric on $\mathcal{L}$	120
$(\cdot, \cdot)_{\lambda, k}$	Petersson metric on $\mathcal{E}_{\lambda, k}$	120
$a(I)$	Fourier coefficient	32
$\mathcal{C}_I$	positive cone in $U(I)_{\mathbb{R}}$	30
c_{λ}	Young symmetrizer	25
$\text{corank}(\lambda)$	corank of λ	133
$\mathcal{D}$	domain of type IV	13
Δ_J	boundary divisor of $\overline{\mathcal{X}(J)}$	59
$\det$	determinant character	16
$\mathcal{D}_I$	tube domain in $U(I)_{\mathbb{C}}$	30
$\mathcal{D}(I)$	enlargement of $\mathcal{D}$ with respect to I	15
$\mathcal{D}(J)$	enlargement of $\mathcal{D}$ over $\mathcal{V}_J$	54
$\mathcal{E}$	second Hodge bundle	16
$\mathcal{E}_J$	sub line bundle of $\mathcal{E}$ associated to J	99
$\mathcal{E}_{\lambda}$	automorphic vector bundle	26
$\mathcal{E}_{\lambda}^J$	sub vector bundle of $\mathcal{E}_{\lambda}$ associated to J	72
$\mathcal{E}_{\lambda, k}$	automorphic vector bundle $\mathcal{E}_{\lambda} \otimes \mathcal{L}^{\otimes k}$	27
$E_{m \otimes l}$	Eichler transvection	11
$\mathcal{E}_{\mathbb{R}}$	real part of $\mathcal{E}$	120
$e(z)$	$\exp(2\pi i z)$	11
F	$\mathbb{Q}$ or $\mathbb{R}$, or sometimes $\mathbb{C}$	18
$F^{\bullet} \mathcal{E}_{\lambda}$	J -filtration on $\mathcal{E}_{\lambda}$	104
$F^{\bullet} \mathcal{E}_{\lambda, k}$	J -filtration on $\mathcal{E}_{\lambda, k}$	104
$\mathcal{F}(\Gamma)$	modular variety $\Gamma \backslash \mathcal{D}$	14
Γ	finite-index subgroup of $O^+(L)$	14
$\Gamma(I)_F$	stabilizer of I	31
$\Gamma(I)_{\mathbb{Z}}$	$\Gamma(I)_{\mathbb{Q}} \cap \Gamma$	31
$\overline{\Gamma(I)}_{\mathbb{Z}}$	$\Gamma(I)_{\mathbb{Z}}/U(I)_{\mathbb{Z}}$	31
$\Gamma(I, J)_F$	identity component of $\Gamma(I)_F \cap \Gamma(J)_F$	68
$\Gamma(J)_F$	Jacobi group of J	56
$\overline{\Gamma(J)}_F$	$\Gamma(J)_F/U(J)_{\mathbb{Z}}$	58
$\Gamma(J)_{\mathbb{Z}}$	$\Gamma(J)_{\mathbb{Q}} \cap \Gamma$	58
$\Gamma(J)_{\mathbb{Z}}^*$	stabilizer of J in Γ	58
$\overline{\Gamma(J)}_{\mathbb{Z}}$	$\Gamma(J)_{\mathbb{Z}}/U(J)_{\mathbb{Z}}$	58
$\mathbb{H}$	upper half plane	11

$\mathbb{H}_J$	J -cusp	54
I	rank 1 primitive isotropic sublattice of L	15
J	rank 2 primitive isotropic sublattice of L	53
$j(g, x)$	factor of automorphy	11
$J_{k,m}(\Gamma(J)\mathbb{Z})$	$J_{(0),k,m}(\Gamma(J)\mathbb{Z})$	89
$J_{\lambda,k,m}(\Gamma(J)\mathbb{Z})$	space of Jacobi forms	89
L	lattice of signature $(2, n)$	13
$\mathcal{L}$	Hodge line bundle	14
$\mathcal{L}_J$	Hodge bundle on $\mathbb{H}_J$	62
λ	partition $(\lambda_1 \geq \cdots \geq \lambda_n)$	25
λ'	reduced partition $(\lambda_2 \geq \cdots \geq \lambda_{n-1})$	70
$ \lambda $	size of λ	25
${}^t\lambda$	transpose of λ	25
$\bar{\lambda}$	highest weight associated to λ	38
$L(\rho, \alpha)$	irreducible highest weight module	137
$M_k(\Gamma)$	$M_{(0),k}(\Gamma)$	28
$M_{\lambda,k}(\Gamma)$	space of modular forms	28
$O^+(L_{\mathbb{R}})$	subgroup of $O(L_{\mathbb{R}})$ preserving $\mathcal{D}$	13
$\Omega^1_{\mathcal{D}}$	cotangent bundle of $\mathcal{D}$	16
ω_J	special normal parameter for Δ_J	82
$\Phi_J f$	Siegel operator	77
ϕ_m	m -th Fourier–Jacobi coefficient	83
π_1	projection from $\mathcal{D}$ to $\mathcal{V}_J \simeq \Delta_J$	54
π_2	projection from $\mathcal{V}_J \simeq \Delta_J$ to $\mathbb{H}_J$	54
$\mathcal{Q}$	compact dual of $\mathcal{D}$	13
q^l	$e((l, Z))$	32
ρ	highest weight $(\rho_1, \dots, \rho_m)$	38
$\rho^\dagger$	conjugate of ρ	38
$S_{\lambda,k}(\Gamma)$	space of cusp forms	33
Σ_I	fan in $U(I)_{\mathbb{R}}$	35
St	standard representation of $O(n, \mathbb{C})$	26
(τ, z, w)	coordinates in Siegel domain model	55
$T_{\mathcal{D}}$	tangent bundle of $\mathcal{D}$	16
Θ_J	conormal bundle of Δ_J	59
$T(I)$	torus $U(I)_{\mathbb{C}}/U(I)_{\mathbb{Z}}$	31
$T(J)$	torus $U(J)_{\mathbb{C}}/U(J)_{\mathbb{Z}}$	58
$\mathcal{T}(J)$	$\mathbb{C}^*$ -bundle $\mathcal{D}(J)/U(J)_{\mathbb{Z}}$	58
$\overline{\mathcal{T}(J)}$	partial compactification of $\mathcal{T}(J)$	58
$U(I)_F$	$(I^\perp/I)_F \otimes_F I_F$	30
$U(I)_{\mathbb{Z}}$	$U(I)_{\mathbb{Q}} \cap \Gamma$	31

$U(I)_{\mathbb{Z}}^{\vee}$	dual lattice of $U(I)_{\mathbb{Z}}$	32
$U(J)_F$	$\wedge^2 J_F$, centre of $W(J)_F$	53
$U(J)_{\mathbb{Z}}$	$U(J)_{\mathbb{Q}} \cap \Gamma$	58
$U(J/I)_F$	unipotent group for $(J/I)_F \subset V(I)_F$	69
$V(I)$	$V(I)_{\mathbb{C}}$	18
$V(I)_F$	$(I^{\perp}/I) \otimes_{\mathbb{Z}} F$	18
$V(I)_{\lambda,k}$	$V(I)_{\lambda} \otimes (I_{\mathbb{C}}^{\vee})^{\otimes k}$	27
$V(I)_{\lambda}^U$	$U(J/I)_{\mathbb{C}}$ -invariant part of $V(I)_{\lambda}$	69
$V(I)_{\lambda,k}^U$	$V(I)_{\lambda}^U \otimes (I_{\mathbb{C}}^{\vee})^{\otimes k}$	69
$V(J)$	$V(J)_{\mathbb{C}}$	53
$V(J)_F$	$(J^{\perp}/J) \otimes_{\mathbb{Z}} F$	53
V_{λ}	irreducible representation of $O(n, \mathbb{C})$	25
$\text{vol}_{\mathcal{D}}$	invariant volume form on $\mathcal{D}$	122
vol_I	flat volume form on $\mathcal{D}_I$	124
$\mathcal{V}_J$	affine space bundle over $\mathbb{H}_J$	54
$W(J)_F$	Heisenberg group of J	56
$W(J)_{\mathbb{Z}}$	$W(J)_{\mathbb{Q}} \cap \Gamma$	58
W_{ρ}	irreducible representation of $SO(n, \mathbb{C})$	38
$W_{\rho,\alpha}$	irreducible representation of $SO(n) \times SO(2)$	134
$\mathcal{X}(I)$	$\mathcal{D}/U(I)_{\mathbb{Z}}$	35
$\mathcal{X}(I)^{\Sigma}$	partial compactification of $\mathcal{X}(I)$	35
$\mathcal{X}(J)$	punctured disc bundle $\mathcal{D}/U(J)_{\mathbb{Z}}$	58
$\overline{\mathcal{X}(J)}$	partial compactification of $\mathcal{X}(J)$	59