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ALPHABETICAL LIST OF SYMBOLS AND CONCEPTS

The following is mainly a list of notation in alphabetical order, according to the usual english transliteration of the symbols. - Are also listed important concepts used in the text which do not have an established or easily guessed symbol attached to them, and which do not occur in one of the headings of the table of contents.

A.

A	abelian variety (or elliptic curve) with complex multiplication (CM)	I,1;III,1
a_D	element of $\mathbb{B}^0_{\mathbb{Q}(\sqrt{-D})}$ such that $J_D = J_{\mathbb{Q}(\sqrt{-D})}(a_D)$	0,8.3
	affine group scheme	I,2.3.1
$\mathcal{A}\mathcal{H}$	category of arithmetic Hodge structures	I,7.3.1
$A_k, \bar{A}_k$	Kuga-Sato variety, compactified	V,1.1.1
α	adelic splitting of Taniyama group	I,6.5
	Anderson's theory of Jacobi sums	0,8.2-4;I,7; II,4.1-3
$\tilde{A}_{\mathfrak{p}}$	reduction of A at $\mathfrak{p}$	I,1.3
$\mathrm{Aut}^{\otimes}\omega$	tensor automorphisms of fibre functor	I,2.3

B.

$\mathbb{B}, \mathbb{B}^0, \mathbb{B}_K, \mathbb{B}^0_K, \mathbb{B}_{(p)}$	free abelian group on $\mathbb{Q}/\mathbb{Z}\setminus\{0\}$, and certain subgroups thereof	0,8.2.1-2
	Brauer's induction lemma (generalized, applied to $\mathfrak{T}$)	I,6.5.8

C.

$C^p_{AH}(X/K)$	absolute Hodge cycles of codim p on X, defined over K	I,2.1
χ	Hecke character (of K with values in E)	0,1
$\chi_{\mathbf{A}}$	idèle character associated to χ	0,5
$\chi_{D,\mathfrak{p}}$	D-th power residue symbol modulo $\mathfrak{p}$	0,8.1
χ_λ	λ-adic idèle class character of χ	0,5
	1-dim. λ-adic Galois representation	I,1.3-5
χ^τ	Größencharaktere associated to χ	0,6
	"Chowla-Selberg-formula" (= Lerch's formula)	III,1.4.4; III,2;III,3.3
$\mathcal{CM}_K$	category of motives over K generated by potentially CM abelian varieties	I,4
$\widetilde{\mathcal{CM}}$	category of Anderson's ulterior motives	I,7.3.3
	corrigenda	II,1.7.11; II,3.1.1 II,3.4
$c^\pm(\chi)$	periods of χ	II,1.8
$c^\pm(M)$	Deligne's periods of the motive M	II,1.6
	critical integer	II,2.0
$\mathrm{Crit}_K(\underline{a})$	(half of the) critical integers for $J_K(\underline{a})$	II,4.2
$\mathcal{CV}_K$	category of the h(X)'s, X a variety over K	I,2.2
	cyclotomic character: see Ψ	

D.

D	-disriminant of $\mathbb{Q}(\sqrt{-D})$	0,8.1;III,1
$\mathfrak{d}$	discriminant of extension of number fields	II,1.4.8

$D^{\pm}$	fudge factor in comparison of p and $c^{\pm}$	II,1.7.3-12
	Deligne's rationality conjecture	II,2.1; V, Introd.
$\delta(K'/K,\sigma)$	fudge factor for $p(M)$ under restriction of scalars	II,1.4.2-8
Δ_{μ}	fudge factor in refined "Chowla-Selberg-formula"	III,1.3.2; III,1.4.4-5; III,1.5.6; III,3.2
$\delta^{\pm}$	fudge factor in comparison of p and $c^{\pm}$	II,1.7.3-12
$\det_E(M)$	determinant motive	II,1.1.2
D_{σ}	fudge factor of $p(M)$ under restriction of scalars	II,1.4.2-8
$\langle\rangle$	representative in $\mathbb{Q}$ of $\mathbb{Q}/\mathbb{Z}$	0,8.1.4

E.

E,E',E_0	fields of values/coefficients (always of finite degree over $\mathbb{Q}$)	0;I;II;V
$\mathbb{E},\mathbb{E}_m,E_m$	"Euler's" arithmetic Hodge structures	I,7.3.2; I,7.4.2; I,7.4.5
$\mathrm{End}_K A$	endomorphisms defined over K of A	I,1.1
ϵ	- adelic splitting of S_K	0,7.4
	- Dirichlet character of $\mathbb{Q}(\sqrt{-D})$	0,8.1;III,1
	- character of theta series f	V,2.0

F.

f	newform on $\Gamma_0(N)$ of weight > 1	V
$\mathfrak{f}$	conductor or defining ideal	0,1
f_E	Tate's class field theoretic "cocycle"	I,6.4.2;I.6.5
$\mathrm{Frob}\ \mathfrak{p}$	geometric Frobenius element	I,1.2

G.

H.

I.

M.

$M(\underline{a})$	motive for special Jacobi sum Hecke character	I,7.1
$M(\chi)$	(standard) motive for the Hecke character χ	I,4-5
$M(f)$	motive for newform f	V,1.1
$\mathcal{M}_K$	category of motives over K	I,2.2
$M_K(\underline{a})$	motive for Jacobi sum Hecke character	I,7.2
$\mathcal{M}_K^{av}$	category of motives obtained from abelian varieties	I,2.4.2
$\dot{\mathcal{M}}_K$	false category of motives over K	I,2.2
$\dot{\mathcal{M}}_K^{+}$	false category of effective motives over K	I,2.2
$\mathcal{M}_K(E)$	category of motives over K with coefficients in E	I,3
$\mathcal{M}_K^0$	category of Artin motives over K	I,2.4.1
	modular proof of Deligne's rationality conjecture (hypothetical)	V,Introd.
	monomial period relations (Shimura)	II,4.4.3;IV,1
	motivic Galois group: see $G(\sigma)$	
MT(A),MT(V)	Mumford-Tate group of an abelian variety/a rational Hodge structure	I,2.3.3; I,6.0.2
μ	- cocharacter of a rational Hodge structure - Hecke character of finite order (= "Dirichlet character")	0,7.3.4; I,6.0-1 II,3;III,1; IV,2

N.

$n(\sigma,\tau)$	Hodge coefficients of a CM-structure	0,4;I,1.7; I,4.2;I,5.1; I,6.1.5
n_1,n_c	coefficients of T_D	0,8.1.3;III,1
	number of CM-type	0,3

P.

Q.

R.

S.

V.

V_E	generalized "half-transfer" of Tate	I,6.4.0; II,3.2.8
$V_\ell(A)$	$= T_\ell(A) \otimes_{\mathbb{Z}_\ell} \mathbb{Q}_\ell$	I,1.1

W.

W	arithmetic Hodge structure	I,7.3.1
$w,\tilde{w}$	weight	0,3;0,7.3.4; I,6.0-1

X.

X_m^n	Fermat hypersurface	I,7.1;II,4.1
$X_1(N)$	closed modular curve	V,1.1.1

Y.

$Y_1(N)$	open modular curve	V,1.1.1

Z.

$Z=\varprojlim Z_K$	the Serre group	0,7;I,6.1.4
$Z_{K,f}$	finite level of the Serre group	0,7.1