
List of Symbols

\mathbf{r}	generic multi-index for multivariate array, page 3
z	generic element of \mathbb{C}^d , page 4
$ \mathbf{r} $	1-norm of multi-index \mathbf{r} , page 7
$\hat{\mathbf{r}}$	unitized vector representing direction determined by \mathbf{r} , page 7
$\mathbf{1}$	vector with all components equal to 1, page 10
F	generic meromorphic multivariate generating function, page 11
P	numerator of generating function F , page 11
Q	denominator of generating function F , page 11
critical(\mathbf{r})	set of critical points in direction $\hat{\mathbf{r}}$, page 11
contrib(\mathbf{r})	set of contributing points, page 11
$\Phi_{\mathbf{w}}(\mathbf{r})$	formula for the contribution from the point \mathbf{w} to the asymptotic series for $a_{\mathbf{r}}$, page 12
δ_j	vector of length d with a 1 in its j th coordinate and a 0 elsewhere, page 17
$\mathbb{C}[[z_1, \dots, z_d]]$	ring of formal power series in $z = (z_1, \dots, z_d)$ with complex coefficients, page 17
$\mathbf{0}$	vector all of whose components equal 0, page 18
∂_k	partial derivative operator with respect to k th variable, page 18
$\mathbb{C}\{z_1, \dots, z_d\}$	ring of germs of analytic functions, page 19
\sqcup	disjoint union, page 22
\mathbb{P}	probability measure, page 29
$\mathbb{C}((z))$	field of formal Laurent series, page 42
Re	real part of a complex number, page 77
Im	imaginary part of a complex number, page 77
ϕ	generic phase function of Fourier–Laplace integral, page 89
A	generic amplitude function of Fourier–Laplace integral, page 89
$C(k, \ell)$	constants defined in terms of Gamma function, appearing in Fourier–Laplace integral formulae, page 90

C^M	class of functions whose derivatives to order M are continuous, page 95
C^∞	class of functions whose derivatives of all orders exist, page 95
p	principal value of k th root, page 98
$\mathcal{I}(\lambda)$	two-sided Fourier–Laplace integral, page 105
$\mathcal{I}_+(\lambda)$	one-sided univariate Fourier–Laplace integral, page 110
Ai	Airy function, page 113
\mathcal{H}	Hessian matrix of second partial derivatives, page 114
∇	gradient map, page 114
Relog	coordinatewise log modulus map, page 135
$\mathbb{C}[z, z^{-1}]$	ring of Laurent polynomials, page 135
$\mathbb{L}(z)$	space of formal Laurent expressions, page 135
amoeba	polynomial amoeba, page 141
hull	convex hull, page 142
\mathcal{N}	Newton polytope, page 143
ν	order map, page 143
$\text{tan}_x(B)$	geometric tangent cone to B at x , page 150
$\text{normal}_x(B)$	outward normal cone, dual to $\text{tan}_x(B)$, page 150
K^*	dual cone of K , page 150
\mathcal{V}	singular variety of generating function, page 153
∇_{\log}	logarithmic gradient, page 159
C	amoeba contour, page 160
deg	order of vanishing of power series, page 162
$\text{alg tan}_x(f)$	algebraic tangent cone of f at x , page 162
hom	homogeneous part of power series, page 162
\tilde{Q}	square-free part of Q , page 182
LT	leading term with respect to monomial order, page 223
$\mathbb{L}(z)$	logarithmic normal space to the stratum containing z , page 229
\mathcal{G}	Gauss map, page 281
\mathcal{K}	Gaussian curvature, page 281
$M(\mathcal{A})$	matroid of a hyperplane arrangement, page 311
O_p	local ring of analytic germs at p , page 320
Δ	standard (embedded) simplex, page 330
\mathbf{t}	generic variable for simplex, page 330
$\pi\Delta$	shadow simplex, page 330
S	set of critical points for a multiple point Fourier–Laplace integral, page 333
$\mathbf{K}^z(A)$	cone of hyperbolicity for the homogeneous polynomial A , page 348
$\mathbf{K}^{A,C}(x)$	family of cones for a homogeneous polynomial A , page 349

$\mathbf{K}^{q,B}(z)$	family of cones when q is log-Laurent polynomial, page 350
A^*	algebraic dual to the homogeneous polynomial A , page 369
π	density of standard normal distribution, page 413
δ	coboundary map, page 475
Γ_Ψ	augmented lognormal matrix, page 492

