

Index

- additive type, 150
- approximable
 - ψ -, 2, 8, 154
 - v -, 3, 8, 138
 - badly, 3, 19, 63, 155
 - dually, 8
 - simultaneously, 7, 8
 - to exponent v
 - exact, 10, 71
 - to order n , 9
 - very well, 3, 27, 138, 156
 - multiplicatively, 56
- approximation
 - by real algebraic numbers, 79
 - function, 2
- asymptotic formulae, 11, 104
- averaging, 147
- Baker's conjecture, 30
- Baker-Sprindžuk conjecture, 28
- bi-Lipschitz, 15
 - parametrisation, 15
- Borel-Cantelli lemma, 4
- Bryuno number, 141
- Cantelli's lemma, 4, 31
- Cantor set, 109, 123
 - middle third, 63
- capacity, 71, 81
- Carathéodory-Cartan theorem, 151
- comparable
 - measures, 61
 - quantities, 2
- continued fractions, 25
- cover, 58
 - s -length of a , 58
 - natural, 5
 - standard hypercube, 64
- curvature, 16, 84
 - principal, 18
- curve, 14
 - in \mathbb{R}^n , 84
 - planar, 83
 - rational normal, 6
- Diophantine approximation
 - by linear forms (see dual), 7
 - dual, 7
 - on manifolds, 27, 113
 - homogeneous, 1, 5
 - inhomogeneous, 26, 105
 - real algebraic numbers, 79
 - simultaneous, 7
 - on manifolds, 27, 92, 117
 - on the circle, 92
- Diophantine type, 138
- Dirichlet's theorem, 1, 107, 153
- distance functions, 98
- essential interval, 45
- Euclidean submanifolds, 11
- exponent of convergence, 153
- fixed point
 - hyperbolic, 152
 - parabolic, 152
- Frostman's lemma, 72
- full set, 4
- fundamental form
 - first, 14
 - second, 17
- geometrically finite, 152
- group
 - convex co-compact, 152
 - first kind, 152
 - Fuchsian, 152
 - Kleinian, 151
 - Möbius transformation, 151
 - second kind, 152
- Hamiltonian system, 145, 147, 160
- Hausdorff dimension, 62
 - p -adic, 125, 136
 - Cartesian product, 65, 68
 - cylinder set, 70
 - invariance, 66
 - properties, 65
- Hausdorff-Cantelli lemma, 67
- height
 - of a polynomial, 22
 - of a vector, 6
- Hessian, 18
- hyperbolic space, 151
- inessential interval, 45

- Jarník's theorem
 on badly approximable numbers, 63, 75
 on simultaneous approximation, 63, 75
 Jarník-Besicovitch theorem, 69, 75, 77, 113, 127, 156
- Khintchine's theorem, 4, 31, 98, 154
 Khintchine's transference principle, 6, 92
 Khintchine-Groshev theorem, 10, 27, 127
 Kolmogorov-Arnol'd-Moser theory, 144
 Kronecker's theorem, 143
- lim-sup set, 3
 Liouville number, 65, 69, 140
 local parametrisations, 12
 Lyapunov's theorem, 151
- Mahler's conjecture, 28, 56, 127
 manifold, 11
 2-convex, 48
 2-curved, 85
 embedded, 12
 extremal, 27, 113
 Groshev type, 30
 Khintchine type, 29
 smooth, 12
 many body problem, 144
 mass distribution principle, 72
 measure
 conformal, 159
 Haar, 124
 Hausdorff, 58
 induced on manifolds, 15
 outer Hausdorff, 60
 Patterson, 154
 spherical, 64
 Minkowski's linear forms theorem, 101, 114
 mixed additive type, 149
 Monge domain, 13
 multiplicative type, 149
- nondegenerate, 29
 null set, 4
- parabola, 24, 82
 extremal, 28
- polynomial
 integral, 7
 leading, 32
- Pythagorean triple, 93
- quasi-periodic flow, 143
- regular system, 70, 99
 of algebraic numbers, 101
 planar, 102
- resonant sets, 22
 Riemannian metric, 14
 root class, 34
 rotation number, 140
- Schmidt's theorem, 28
 Schröder's equation, 148
 shrinking target, 158
 Siegel's theorem, 149
 small denominators, 140, 147
 smooth, 12
 sparse system, 98
 Sprindžuk's conjecture, 28
 stability, 137, 151, 160
 solar system, 145
 symmetrised fractional part, 6
- tumbler functions, 119
- ubiquitous system, 70, 106
 uniform distribution, 104
- well distributed system, 122
 Wiles' theorem, 94