

Index

- A^c , 6
- B_+^n , 252
- $C^\infty(U, \mathbb{R}^m)$, 11
- $C^k(U, \mathbb{R}^m)$, 11
- $C_0^k(U, \mathbb{R}^m)$, 12
- $C_f(x)$, 151
- $H(T)$, 11
- $H_I(T)$, 11
- $H_O(T)$, 11
- $H_f(x)$, 229
- $J_f(x)$, 15
- $K(f)$, 205
- $K^*(f)$, 206
- $K_I(f)$, 205
- $K_I^*(f)$, 206
- $K_O(f)$, 205
- $K_O^*(f)$, 206
- $L_f(x)$, 14
- $M(\Gamma)$, 79
- $M_p(\Gamma)$, 99
- O_Γ , 403
- $R_G(n, r)$, 154
- $R_T(n, s)$, 155
- $\Lambda(n)$, 8
- $\Delta(E, F : G)$, 101
- $E(n)$, 8
- Möb(n), 23
- GS(n), 19
- \mathbb{H}^n , 22
- $\text{Isom}^+(\mathbb{H}^n)$, 384
- $\Lambda(\Gamma)$, 403
- $O(n)$, 8
- $\text{SO}(n)$, 8
- Θ_K^n , 274
- δ_D , 335
- $\delta_\Omega(a, b)$, 336
- $\ell_\rho(\gamma)$, 37
- $\ell_f(x)$, 14
- $\ker_{\nu \rightarrow \infty} A_\nu$, 284
- λ_D , 335
- osc su , 149
- $\partial^* D$, 337
- ϕ -Loewner, 342
- ϕ -broad, 342
- $\pi(x)$, 7
- $\text{supp}(f)$, 12
- $ax(\gamma)$, 407
- $d_\rho(x, y)$, 37
- k_D , 39
- p -Laplace equation, 197
- p -extremal metric for 140
- p -harmonic equation, 197
- p -harmonic function, 197
- p -modulus, 99
- $q\sigma$, 137
- $q\sigma_D(x, y)$, 266
- $\mathcal{C}(A)$, 87
- $\mathcal{L}(\mathbb{R}^n)$, 134
- $\mathcal{R}(C_0, C_1)$, 152
- ACL(U), 145
- ACL(U, \mathbb{R}^m), 145
- ACL-function, 143
- ACL-homeomorphism, 230
- ACL-property, 143
- ACL P -function, 144
- $\text{Adm}(\Gamma)$, 78
- $\text{Cap}_p(R)$, 152
- absolute continuity, 88
- absolutely continuous on lines, 143
- accessible, 268
- adjoint, 8
- admissible density, 78, 99
- affine group, 8
- affine transformation, 8
- almost admissible, 140
- Arzelà-Ascoli theorem, 53
- asymptote, 186
- asymptotically regulated, 186
- atlas, 384
- axis, 49, 407
- Beurling's compactness criterion, 296
- Beurling-Ahlfors extension, 355, 378
- bilipschitz, 50, 218, 219, 225, 243, 295, 356
 - locally, 356
- BLD, 347

- boundary
 - cuspidal, 315
 - ridge, 316
- bounded length distortion, 347
- bounded turning, 324
- broad, 342
- canonical Schoenflies theorem, 331
- cap inequality, 121
- capacity
 - condenser, 161
 - conformal, 152
 - zero, 182
- carrot, 341
- chain rule, 14
- chord-arc condition, 335
- chord-arc curve, 336
- chordal
 - diameter, 7
 - distance, 7
 - metric, 7
- cigar, 339
- cluster set, 151
- cocompact, 381, 388
- coefficients of quasiconformality, 309
- complement, 6
- complex dilatation, 82
- condenser, 161
 - capacity, 161
 - extremal function, 184
- cone, 214
- conformal
 - group, 23
 - mapping, 19
 - modulus, 80, 99
 - capacity, 152
- conformally Euclidean metrics, 37
- conical limit point, 407
- convergence group, 293
- convergence of kernels, 287
- coordinates
 - cylindrical, 212
 - polar, 212
 - spherical, 212
- cross-ratio
 - chordal, 28
 - Euclidean, 28
- cuspidal, 315
- dense orbit, 394, 408
- diffeomorphism, 15
- dihedral wedge, 213
- dilatation, 11
 - ellipsoid, 210
 - inner, 11
 - outer, 11
 - ring, 206
- dilation, 20
- discrete group, 385
- distortion function, 274
- distributional derivative, 145
- Efremovich–Tihomirova theorem, 393
- elementary group, 404
- elliptic, 404
 - Möbius transformation, 387
 - transformation, 47
- endcut, 336
- equicontinuity, 53, 282
- essentially nonsingular, 199
- Euclidean group, 8
- extremal
 - function, 184
 - mapping, 309
 - metric, 140
- fellow traveller, 396
- finitely connected, 260
 - along boundary, 260
- Fox–Artin sphere, 310
- Fréchet derivative, 12
- free, 385
- fundamental domain, 386
- fundamental group, 385
- general linear group, 8
- generalized Jacobian, 223
- geometrisation conjecture, 383
- gradient, 12
- Hadamard space, 293
- Hausdorff
 - dimension, 85
 - distance, 137
 - outer measure, 85
- holomorphic, 307
- homogeneously totally bounded, 340
- homothety, 20
- horosphere, 49
- hyperbolic
 - convex, 42
 - geodesics, 42
 - line, 41
 - manifold, 384
 - metric, 39
 - segments, 42
 - volume, 388
- hyperboloid model, 59
- ideal boundary, 402
- impression map, 337
- inner chord-arc domain, 336
- inner dilatation, 11, 81
- internal metrics, 335
- inversion, 21
- involution, 20
- isodiametric inequality, 228
- isometric sphere, 30

- Jacobian determinant, 15
- John domain, 339
- Jordan domain, 260, 323, 324
- Jordan-Brouwer, 331

- kernel, 284, 288
- Killing–Hopf theorem, 385
- Kleinian group, 402

- lattice, 415
- Lebesgue differentiation theorem, 222
- Lebesgue measure, 82
- Lebesgue modification, 187
- limit set, 403
- linear dilatation, 74
- linear measure, 225
- Liouville’s theorem, 64, 72
- LIP-embedding, 356
- Lipschitz
 - domain, 254
 - embedding, 356
- local uniform convergence, 52
- locally connected, 260
 - along boundary, 260
- locally quasiconformally collared, 252
- locally simply connected at ∞ , 313
- Loewner, 342
- lower semicontinuity
 - distortion functions, 287
- lower semicontinuous, 295
- loxodromic, 404
- loxodromic transformation, 47
- Lusin property, 224

- Möbius
 - group, 23
 - space, 6
 - transformation, 23
- maximal dilatation, 81
- maximal stretching, 7, 14
- metric arc, 318
- metric density, 37
- minimal stretching, 7, 14
- modulus, 152
- modulus of a curve family, 79
- monotone, 186
- Morse lemma, 396

- nonelementary group, 404
- normal
 - family, 53, 281, 283
 - limit point, 405
 - representation of a path, 93

- operator norm, 7
- orbit, 403
- orbit space, 387
- order, 387
- orthogonal
 - group, 8
 - transformation, 8
- oscillation, 149, 187
- outer distortion, 79
- outerdilatation, 11

- parabolic, 404
- parabolic transformation, 47
- path, 87
- piecewise linear, 163, 179, 295, 355
- Poincaré
 - extension, 33
 - metric, 39
- point of density, 223
- positive
 - definite, 9
 - semidefinite, 9
- precompact, 296
- prime end, 336
- properly discontinuously, 385

- quasi-isometry, 390
- quasiball, 313, 316–318, 328, 334
- quasiconformal, 77, 206
 - homogeneity, 322, 351
 - manifold, 389
 - reflection, 321
 - structure, 388
- quasiconformally
 - collared, 252, 323
 - flat, 325
- quasigeodesic, 396
- quasihyperbolic metric, 39, 349, 392
- quasisphere, 253, 308, 314
- quasisymmetric, 271, 276, 339
 - weakly, 276
- quotient space, 385

- radial derivative, 156
- radial extension, 323
- radial limit point, 407
- radial stretching, 211, 281
- rank-one, 295
 - convex, 295
- real-analytic, 202
- reflection, 20
- relative chordal distance, 266
- removable set, 244
- Rickman’s rug, 318, 321, 353
- ridge, 316
- Riemannian structure, 68
- ring, 152
 - capacity, 152
 - Grötzsch, 154
 - modulus, 152
 - nondegenerate, 152
 - symmetrization of, 180
 - Teichmüller, 155

- scalar curvature, 70
- Schoenflies theorem, 328
- sense-preserving, 15
- sense-reversing, 15
- similarity, 19
- simplex, 163
- Sobolev space, 145
- special orthogonal group, 8
- sphere at infinity, 384
- spherical metric, 7
- spherical outer measure, 85
- spherical symmetrization, 167
- stabilizer, 384
- stable w.r.t. similarities, 296
- standard basis, 5
- standard position, 342
- starlike, 218
- stereographic projection, 6, 7, 23, 27, 59, 114
- subcurve, 87
- Sullivan's theorem, 389
- symmetric derivative of a measure, 222
- symmetric transformation, 9
- symmetrization, 167

- tangent hyperplane, 352
- topological
 - group, 56, 288
 - isomorphism, 57
- torsion, 387
- torsion free, 387
- totally disconnected, 182
- trajectory, 87
- translation, 20

- uniformly approximable, 358

- volume derivative, 223

- weak derivative, 145
- weak divergence, 196
- weakly divergence-free, 196
- weakly quasisymmetric, 339
- Whitney decomposition, 368
- word metric, 393