Index of Notations

$\mathbb{A}$ the set of atoms, page 361

$\tilde{\pi}$ automorphism on $\mathbb{P}$-names, page 298

$\breve{\pi}$ the automorphism on $\mathbb{P}$-names induced by some permutation (for **ZFA**), page 364

axiom of Atoms the axiom of atoms (for **ZFA**), page 361

$\boldsymbol{\mathcal{M}}^{\mathbf{HS}_{\mathscr{F}}}_{\mathcal{F}_0}$ the basic Fraenkel model (for **ZFA**), page 372

$\check{x}$ the canonical $\mathbb{P}$-name for any set x, page 242

CH the continuum hypothesis, page 76

Choice the axiom of choice, page 14

$\neg$**AC** the negation of the axiom of choice, page 401

Comprehension Schema the axioms of Comprehension, page 14

Comprehension Schema for ZFA the strengthening of the comprehension axiom schema (for **ZFA**), page 362

$\mathbf{V} = \mathbf{L}$ the axiom of constructibility, page 213

c.c.c. countable chain condition, page 279

Δ^0_0 the Delta zero zero formulas, page 181

Δ^0_n the Delta zero n formulas, page 181

Δ-system Delta-system, page 286

DC the axiom of dependent choice, page 84

Empty Set Existence for ZFA the axiom of empty set existence (for **ZFA**), page 361

Extensionality the axiom of extensionality, page 13

Extensionality for ZFA the axiom of extensionality (for **ZFA**), page 361

$\Vdash_*$ forcing from inside **M**, page 251

$\Vdash_{\mathbb{P},\mathbf{M}}$ forcing from inside **V**, page 249

$(\mathbb{P}, \leqslant)$ notion of forcing, page 226

Foundation the axiom of foundation, page 14

GCH the generalized continuum hypothesis, page 76

$\mathbf{M}[G]$ the generic extension of **M**, page 238

$\mathbf{HS}_{\mathscr{F}}$ the class of all hereditarily symmetric $\mathbb{P}$-names, page 326

$\mathbf{HS}_{\mathscr{F}}$ the class of hereditarily symmetric sets (for **ZFA**), page 366

$\boldsymbol{\mathcal{M}}^{\mathbf{HS}_{\mathscr{F}}}$ the permutation model (for **ZFA**), page 369

$\mathbf{HOD}(A)$ the class of all heriditarily ordinal definable sets from A, page 301

Infinity the axiom of infinity, page 14

$\overset{1-1}{\lesssim}$ injects to, page 309

$\overset{1-1}{\not\lesssim}$ does not inject to, page 309

$\boldsymbol{\mathcal{P}}^{\infty}(\varnothing)$ the kernel (for **ZFA**), page 363

λ-chain condition , page 279

λ-closed lambda closure, page 282

L Gödel's constructible universe, page 197

$\in$-automorphism the membership class automorphism, page 364

$\boldsymbol{\mathcal{M}}^{\mathbf{HS}_{\mathscr{F}}}_{ost.}$ the ordered Mostowski model (for **ZFA**), page 380

$\widehat{\mathbf{M}[G]}^{\mathcal{F},\mathcal{A}}$ the symmetric model (for **ZFA**), page 387

$\mathbb{1}$ one, page 226

$\mathbf{OD}(A)$ the class of all sets ordinal definable from A, page 301

On the class of ordinal numbers, page 38

Pairing the axiom of pairing, page 14

$\mathcal{P}art.\ \mathcal{R}ec.$ the partial recursive functions, page 143

$\mathcal{P}eano$ Peano arithmetic, page 180

$\mathbb{P}$-generic over genericity over a poset, page 228

$\boldsymbol{\mathcal{P}}^{\infty}(S)$ the von Neumann hierarchy generated by S, page 362

Π^0_n the Pi zero n formulas, page 181

$\mathbb{P}_{\text{Levy}}$ the Levy forcing, page 337

$\mathbb{P}$-name the set of names, page 235

$\mathbf{V}^{\mathbb{P}}$ the class of all $\mathbb{P}$-names, page 238

$\mathbf{M}^{\mathbb{P}}$ the class of all $\mathbb{P}$-names of $\mathbf{M}$, page 238

$\mathbb{P}$ partially ordered set (poset), page 226

Power Set the axiom of powerset, page 14

$\mathcal{P}rim.\ \mathcal{R}ec.$ the primitive recursive functions, page 145

Replacement Schema the axioms of replacement, page 14

$\mathcal{R}ob.$ Robinson arithmetic, page 146

Δ_0^{0-rud}-formula the rudimentary formulas, page 130

$\boldsymbol{\mathcal{M}}^{\mathbf{HS}_{\mathscr{F}}}_{\mathcal{F}_2}$ the second Fraenkel model (for **ZFA**), page 375

Set Existence the axiom of set existence, page 13

Σ^0_n the Sigma zero n fomulas, page 181

$(\tau)_G$ the stripping of a $\mathbb{P}$-name τ, page 238

$\overset{\text{onto}}{\lesssim}$ surjects to, page 309

$\overset{\text{onto}}{\not\lesssim}$ does not surject to, page 309

$\widehat{\mathbf{M}[G]}^{\mathscr{F}}$ the symmetric submodel of a generic extension, page 328

$sym_{\mathscr{G}}(\tau)$ the symmetry group of a $\mathbb{P}$-name τ, page 324

Union the axiom of union, page 14

V the Universe, or von Neumann hierarchy, page 38

WF the class of well founded sets, page 79

Z Zermelo set theory, page 13

ZF Zermelo-Fraenkel set theory, page 13

ZFA set theory with atoms, page 361

ZFC Zermelo-Fraenkel set theory with axiom of choice, page 13

$\mathcal{Z}^{\mathrm{HS}_{\mathcal{F}_\mathbb{A}}}$ the permutation model induced by $\mathcal{Z}$ and $\mathcal{F}_\mathbb{A}$, page 387