

INDEX OF SYMBOLS

This list should be used together with the index of symbols in the book [HMT]. For [HMT] see any one of the lists of references in this volume.

$\Delta x, \Delta x$	$\{i \in \alpha : c_{1x} x \neq x\}$; 2, 133, [HMT]
$\Delta^{[V]} x, \Delta^{(U)} x$	dimension set of x ; 132-3
f_u^x	$\{ \langle x, u \rangle \} \cup (\text{Dof} \sim \{x\}) 1f$; 4
$f(x/u)$	f_u^x ; 4
$f[H/g]$	$H1g \cup (\text{Dof} \sim H) 1f$; 132
${}^\alpha U$	set of functions from α to U ; 1,5,[HMT]
${}^\alpha U(p)$	$\{q \in {}^\alpha U : q \sim p < \omega\}$; 5, [HMT]
$D_{\kappa\lambda}^{[V]}$	diagonal element; 4, [HMT]
$C_\kappa^{[V]}$	cylindrification; 4, [HMT]
$\text{Crs}_\alpha, \text{Cs}_\alpha, \text{Ws}_\alpha, \text{Gs}_\alpha, \text{Gws}_\alpha$	distinguished classes of cylindrical-relativized set algebras; 5-6
$K^{\text{reg}}, \text{Crs}_\alpha^{\text{reg}}, \text{etc.}$	class of regular members of K ; 6
${}_\infty K, {}_\infty \text{Gws}_\alpha, \text{etc.}$	class of members of K with all subbases infinite; 106(I.7.20), 134, 72
${}_\kappa K, {}_\kappa \text{Gws}_\alpha, \text{etc.}$	$\{\mathcal{U} \in K : (\forall U \in \text{Subb}(\mathcal{U})) U = \kappa\}$; 134
$K^{\text{norm}}, \text{Gws}_\alpha^{\text{norm}}, \text{etc.}$	class of normal members of K ; 138(0.5)
$K^{\text{comp}}, \text{Gws}_\alpha^{\text{comp}}, \text{etc.}$	class of compressed members of K ; 138(0.5)
$K^{\text{wd}}, \text{Gws}_\alpha^{\text{wd}}, \text{etc.}$	class of widely distributed members of K ; 138(0.5)
$\text{Gws}_\alpha^{\text{comp reg}}$	$(\text{Gws}_\alpha^{\text{comp}})^{\text{reg}}$; 6 together with 138
$K^{\text{oreg}}, K^{\text{zdreg}}, K^{\text{creg}}, K^{\text{ireg}}$	152(1.6.1)
$\mathcal{R}l K, \mathcal{R}l K$	$\{\mathcal{R}l_b \mathcal{U} : \mathcal{U} \in K, b \in A\}$; 6
$rl_W^{\mathcal{U}}$	$\langle x \cap W : x \in A \rangle$; 73(I.6.1)
$rl_W^{\mathcal{U}}, rl_W^A, rl^A(W), rl_W, rl(W)$	see $rl_W^{\mathcal{U}}$; 153(2.1)
$rl_W \mathcal{U}, rl_W A, rl(W)A$	universe of $\mathcal{R}l_W \mathcal{U}$; 153(2.1(ii))
$\mathcal{R}l_W \mathcal{U}, \mathcal{R}l(W) \mathcal{U}, \mathcal{R}l(W)A$	$\mathcal{G}_y^{(\mathcal{G}W)} rl_W^* A$; 153(2.1(ii))
\mathcal{F}	base-isomorphism induced by f ; 37(I.3.5), 155(3.1)

\tilde{V}	$\langle V \sim x : x \text{ is a set} \rangle ;$ [HMT]
$A \sim B$	$\{a \in A : a \notin B\} ;$ [HMT]
c^+	defined if c is an $\langle F, U, \alpha \rangle$ -choice function; 86(I.7.1)
$\text{Rep}(c), \text{Rep}(F, U, \alpha, A, c), \text{Rep}$	representing function of ultraproducts of Crs_α -s; 86(I.7.1)
Rep_c	$\text{Rep}_c \stackrel{d}{=} \text{Rep}(c) ;$ 244, 86
$\text{ud}_F^A, \text{ud}_F$	diagonal ultrapower sub-base-isomorphism; 162(3.5.1)
$\text{ud}_{cF}^A, \text{ud}_c$	diagonal ultrapower homomorphism if c is an $\langle F, U, \alpha \rangle$ -choice function; 181(3.12)
\rightarrow	onto function; 132
$>\rightarrow$	one-one function; 132
$>\rightarrow\rightarrow$	one-one and onto function; 132
$\overset{C}{\underset{-\omega}{\subset}}$	"finite subset of" relation; 132
$\text{Sb}_\omega V$	$\{X : X \overset{C}{\underset{-\omega}{\subset}} V\} ;$ 132
$\text{Sb } V$	powerset of V ; [HMT]
$\mathcal{G}B V$	full Crs_α with unit V ; 132
$\mathcal{M}\mathcal{U}(\mathcal{U})$	minimal subalgebra of $\mathcal{U} ;$ 132
$\text{Mn}(\mathcal{U})$	universe of $\mathcal{M}\mathcal{U}(\mathcal{U}) ;$ 132
$\text{Zd } \mathcal{U}$	$\{x \in A : \Delta^{(\mathcal{U})} x = 0\} ;$ 133, 262-3
$\mathcal{Z}\mathcal{U}$	$(\mathcal{Z}\mathcal{U}^{(\mathcal{R})} \mathcal{U}) \text{Zd } \mathcal{U} ;$ 133, 262-3
$\text{Zd}A, \text{At}A, \text{etc.}$	the corresponding notions for $\mathcal{Z}\mathcal{U}^{(\mathcal{G}B \cup A)} A ;$ 133
$\text{base}(V), \text{base}(\mathcal{U})$	base of; 133(O.1)
$\text{Subu}(V), \text{Subu}(\mathcal{U})$	set of subunits of; 133(O.1)
$\text{Subb}(V), \text{Subb}(\mathcal{U})$	set of subbases of; 133(O.1)
\bar{s}	$\langle s : i \in \alpha \rangle ;$ 141
$\text{Sm}^\mathcal{U}, \text{Sm}$	set of small elements of $\mathcal{U} ;$ 146(1.2)
$I_H^\mathcal{U}, I_H$	146(1.3.1)
$\text{Dm}_H^\mathcal{U}, \text{Dm}_H, \text{Dm}_H(\mathcal{U})$	$\{x \in A : \Delta x \sim H < \omega\} ;$ 146(1.3.1)
$\mathcal{D}\mathcal{M}_H^\mathcal{U}, \mathcal{D}\mathcal{M}_H, \mathcal{D}\mathcal{M}_H(\mathcal{U})$	subalgebra of \mathcal{U} with universe $\text{Dm}_H ;$ 146(1.3.1)
$\text{H-dim}^\mathcal{U}, \text{H-dim}$	set of almost H-dimensional elements of $\mathcal{U} ;$ 195(4.7.2.1)

f^{AB}	base-relation induced by f on $A \times B$; 170
$Ud\ K$	class of directed unions of members of K ; 203
$Uf\ K$	class of ultraroots of members of K ; 229 (7.0), [HMT]
$Up\ 'K$	class of ultrapowers of members of K ; 229(7.0), [HMT]
$Dind_\alpha$	$\{\mathcal{U} \in CA_\alpha : \text{Zd}\mathcal{U} \leq 2\}$; 210
$rb^\rho, rb^{(\rho)}$	$rb^{(\rho)} \stackrel{d}{=} rb^\rho$; 191(4.7.1.1)
$rd^\rho, rd^{(\rho)}$	$rd^{(\rho)} \stackrel{d}{=} rd^\rho$; 191(4.7.1.1)
rd_α	$rd^{(\alpha 1 Id)}$; 261
rs_α	289(8.16)
$Rd_\alpha^{(\rho)} Bo_\beta$	263
Ord	class of all ordinals; 263
$CA_H, Cs_H, \text{etc.}$	H -dimensional CA -s; 222(6.0)
$Rd_H \mathcal{U}, \mathcal{R}_H \mathcal{U}$	defined for $\mathcal{U} \in CA_S, S \subseteq H$; 222(6.0), [HMT]
$Nr_H \mathcal{U}, \mathcal{N}_H \mathcal{U}$	defined for $\mathcal{U} \in CA_S, S \subseteq H$; 269, 222(6.0), [HMT]
$\mathcal{R}_f^{(\kappa)}$	greatest $Cs_\alpha^{reg} \cap Lf_\alpha$ with base κ ; 230(7.1)
$CA, \text{ } \downarrow Cs, \text{ etc.}$	systems of classes of algebras; 263(8.2)
(S1) - (S9)	281(8.13.1)
$Crax, Cpax, Rgax$	sets of axioms; 281(8.13.2)
$str(\mathcal{U})$	Crs -structure associated to \mathcal{U} ; 281(8.13.3)
$Cyl_\xi(\mathcal{M})$	Crs_α associated to \mathcal{M} ; 281(8.13.3)
Id	identity relation; [HMT]
$Do\ R, D \circ R$	domain of R ; [HMT]
$Rg\ R, R \circ R$	range of R ; [HMT]
$A \upharpoonright R$	R domain-restricted to A ; [HMT]
R^*A	R -image of A ; [HMT]
R^*x	$R^*\{x\}$; [HMT]
$p]_a$	a -th projection; [HMT]
$\theta_\rho\ K$	theory of K ; [HMT]
Md_φ	class of models of φ ; [HMT]

$\text{Su } \mathcal{U}$	set of subuniverses of \mathcal{U} ; [HMT]
$\text{SK, } \text{S}\mathcal{U}$	class of subalgebras; [HMT]
$\text{Sg}^{(\mathcal{U})} X, \text{Sg} X$	subuniverse of \mathcal{U} generated by X ; [HMT]
$\zeta_{\mathcal{U}}^{(\mathcal{U})} X, \zeta_{\mathcal{U}} X$	subalgebra of \mathcal{U} generated by X ; [HMT]
$\text{Ho } \mathcal{U}$	class of homomorphisms on \mathcal{U} ; [HMT]
$\text{Is } \mathcal{U}$	class of isomorphisms on \mathcal{U} ; [HMT]
$h^* \mathcal{U}$	h -image of \mathcal{U} ; [HMT]
$\text{Ho}(\mathcal{U}, \mathcal{L})$	set of homomorphisms from \mathcal{U} <u>onto</u> \mathcal{L} ; [HMT]
$\text{Is}(\mathcal{U}, \mathcal{L})$	set of isomorphisms from \mathcal{U} <u>onto</u> \mathcal{L} ; [HMT]
$\text{Hom}(\mathcal{U}, \mathcal{L})$	set of homomorphisms from \mathcal{U} <u>into</u> \mathcal{L} ; [HMT]
$\text{Ism}(\mathcal{U}, \mathcal{L})$	set of isomorphisms from \mathcal{U} <u>into</u> \mathcal{L} ; [HMT]
$\mathcal{U} \leq \mathcal{L}$	\mathcal{U} is a homomorphic image of \mathcal{L} ; [HMT]
$\text{HK, } \text{H}\mathcal{U}$	class of homomorphic images; [HMT]
$\text{IK, } \text{I}\mathcal{U}$	class of isomorphic images; [HMT]
$\text{Co } \mathcal{U}$	set of congruence relations on \mathcal{U} ; [HMT]
$\text{I}\mathcal{I} \mathcal{U}$	set of ideals of \mathcal{U} ; [HMT]
$\text{Ig}^{(\mathcal{U})} X, \text{Ig } X$	ideal generated by X ; [HMT]
$\text{P}\mathcal{L}, \text{P}_{i \in I} \mathcal{L}_i$	direct product of \mathcal{L} ; [HMT]
PK	class of isomorphic images of direct products; [HMT]
$\text{Up } K$	class of isomorphic images of ultra-products; [HMT]
$\mathcal{L} \subseteq^r \mathcal{U}$	\mathcal{L} is a subreduct of \mathcal{U} ; [HMT]
$\cup^r K$	reduct union of K ; [HMT]
$\langle A, +, \cdot, -, 0, 1 \rangle$	Boolean algebra; [HMT]
BA	class of all Boolean algebras; [HMT]
$\Sigma(\mathcal{U}), \Sigma$	sup; [HMT]
$\Pi(\mathcal{U}), \Pi$	inf; [HMT]
$\langle A, +, \cdot, -, 0, 1, c_{\kappa}, d_{\kappa\lambda} \rangle_{\kappa, \lambda < \alpha}$	cylindric algebra; [HMT]
$\mathcal{L}\mathcal{I} \mathcal{U}$	$\mathcal{K}\mathcal{I}_0 \mathcal{U}$; 263, [HMT]
c_{κ}^{∂}	dual cylindrification; [HMT]
s_{λ}^{κ}	substitution operation, λ for κ ; [HMT]

$\mu^s(x, \lambda)$	substitution operation, interchanging x and λ ; [HMT]
$Cl_\Gamma \mathcal{U}, Ll_\Gamma \mathcal{U}$	BA of Γ -closed elements of \mathcal{U} ; [HMT]
c_Γ	generalized cylindrification; [HMT]
d_Γ	generalized diagonal element; [HMT]
\bar{d}	generalized co-diagonal element; [HMT]
Lf_α	class of all locally finite CA_α -s; [HMT]
Dc_α	class of all dimension-complemented CA_α -s; [HMT]
Mn_α	class of all minimal CA_α -s; [HMT]
$Rd^{(\rho)} \mathcal{L}, R\rho \mathcal{L}$	ρ -reduct of \mathcal{L} ; 263, [HMT]
$Rd_\alpha^{(\rho)} K, Rd_\alpha K$	class of reducts; [HMT]
$Nr_\alpha K$	class of neat-reducts; [HMT]
Bo_α	class of all BA-s with operators; [HMT]
$At \mathcal{U}$	set of atoms of \mathcal{U} ; p.225 of [HMT]
\oplus	symmetric difference; [HMT]
$R S$	relative product of the relations R and S; [HMT]
$a_x^{\mathcal{U}}, a_x$	$c_{(x)} \bar{d}(x \times x)$; 234(7.3.1), [HMT]
$at(x)$	formula; 234(7.3.1)
Cr_α	$Rl CA_\alpha$; [HMT]
$\mathcal{L} \subseteq_d P \mathcal{U}$	\mathcal{L} is a subdirect product of \mathcal{U} ; [HMT]
$\ker(f)$	$\{\langle x, y \rangle : \exists z (\langle x, z \rangle \in f \text{ and } \langle y, z \rangle \in f)\}$; 238

INDEX OF DEFINED TERMS

This list should be used together with the "index of names and subjects" of the book [HMT].

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