

# TABLE OF SYMBOLS

$E_{\mathbb{R}}, E_{\mathbb{C}} = E$	real, complex Banach lattice
$E_+$	positive cone
$E'$	dual
$E^*$	semigroup dual
$E_T^T$	$F$ -product of $E$ with respect to the semigroup $T$
$E_F$	$F$ -product of $E$
$E_f$	see C-I, 4
$(E, \phi)$	see C-I, 4
$E \otimes F$	tensor product
$L(E)$	bounded linear operators on $E$
$Z(E)$	center of $E$
$E_n$	$n$ -th Sobolev space
$B(H)$	$W^*$ -algebra of all bounded linear operators on $H$
$S(M)$	state space of a $C^*$ -algebra $M$
$M_+$	positive cone of the $C^*$ -algebra $M$
$M_*$	predual
$M^{sa}$	self-adjoint part
$M_n$	$C^*$ -algebra of all $n \times n$ -matrices
$AC$	absolutely continuous functions
$BV$	functions of bounded variation
$K$	compact topological space
$X$	locally compact topological space
$C(K), C(K, E)$	continuous functions (with values in $E$ )
$C_c(X), C_0(X, E)$	continuous functions vanishing in infinity with values in $E$
$C_b(X)$	bounded continuous functions
$C_{bu}(X)$	uniformly continuous functions
$C^n, C^{(n)}$	continuous differentiable functions ( $n$ -times)
$C_c^\infty(\mathbb{R}^n)$	infinitely differentiable functions with compact support
$L^p(\mu)$	$p$ -integrable functions
$S(\mathbb{R}^n)$	Schwartz space
$M(K)$	regular Borel measures
$M_b(X)$	bounded regular Borel measures
$T = (T(t))_{t \geq 0}$	(one-parameter) semigroup
$T $	subspace (reduced) semigroup
$T/$	quotient semigroup
$\text{Fix}(T)$	fixed space of $T$

$A$	generator
$A'$	adjoint
$A^*$	adjoint generator
$\sigma(A)$	spectrum
$\rho(A)$	resolvent set
$\sigma_{\text{ess}}(A)$	essential spectrum
$\sigma_b(A)$	boundary spectrum
$P\sigma(A)$	point spectrum
$P\sigma_b(A)$	boundary point spectrum
$A\sigma(A)$	approximate point spectrum
$R\sigma(A)$	residual spectrum
$\omega = \omega(A) = \omega(T) = \omega(T(t))$	growth bound
$s(A)$	spectral bound
$\omega_1(A)$	growth bound of the solution of the (ACP)
$\omega(f)$	growth bound of $T(\cdot)f$
$r(T)$	spectral radius
$\omega_{\text{ess}}(A)$	essential growth bound
$r_{\text{ess}}(T)$	essential spectral radius
$R(\lambda, A)$	resolvent operator
$I^d, \{I^d\}^d = I^{dd}$	orthogonal band of $I$ (of $I^d$ )
$\wedge$	infimum
$\vee$	supremum
$ T $	modulus of a regular operator
$\hat{f}, \check{f}$	Fourier (inverse Fourier) transformation
$dp(f)$	subdifferential of $p$ in $f$
$dN(f)$	subdifferential of the norm in $f$
$dN^+(f)$	subdifferential of the canonical half-norm in $f$
$\text{im}$	range
$\ker$	null-space
$\text{Im}$	imaginary part
$\text{Re}$	real part
$\text{Re}f, \text{Im}f$	see C-I,7
$\text{Re}T, \text{Im}T$	see C-I,7
$\bar{f}$	complex conjugate of $f$
$S_f$	signum operator with respect to $f$
$\text{sign } f$	signum of $f$
$\hat{\text{sign}} f$	see C-II,2.2
$f^{[n]}$	B-III,2.2 ; C-III,2.1
$ f $	absolute value of $f$
$f^+$	positive part of $f$
$f^-$	negative part of $f$

$\text{Id}$	identity operator
$M_p$	multiplication operator
$1$	function identically 1
$1_C$	characteristic function of the set $C$
$\delta_x$	Dirac measure in $x$
$\text{tr}$	trace
$\text{span } M$	linear subspace generated by $M$
$S(\alpha)$	sector in the complex plane
$(ACP)$	abstract Cauchy problem
$(P)$	positive minimum principle
$(P')$	B-II, I.21
$(K)$	Kato's (equality) inequality
$(RCP)$	retarded Cauchy problem
$(RE)$	retarded equation
$(T)$	translation property