

INDEX OF NOTATION

$A^{1/2}$	142
$C[0, 1]$	5
$C^1[0, 1]$	61
clin	16
clos	16
E^*	61
ℓ^1	19
ℓ^2	4
L^2	157
$L^2(a, b)$	23
ℓ^∞	18
L^∞	157
$\mathcal{L}(\cdot, \cdot)$	71
lin	16
$\ \cdot \ $	6, 13
$\ \cdot \ _1$	19
$\ \cdot \ _\infty$	13, 18
(\cdot, \cdot)	4
\mathbb{C}	the set of complex numbers
$\partial\mathbb{D}$	9
\mathbb{D}	9
$D(L)$	113
dist_E	192
\hat{f}	159
$J(B)$	148
H_φ	190
HC	134
HCSL	135

Index of notation

237

H^p	159
$H_{(k)}^\infty$	203
I	72
J_0	108, 116
Ker	69
\mathbb{N}	the set of positive integers
P_r	161
P_+	188
P_-	190
\mathbb{R}	the set of real numbers
RSL	110
RH^2	9
SSL	111
RL^2	9
$W[a, b]$	11
\mathbb{Z}	the set of integers
\mathbb{Z}^+	the set of non-negative integers
\ominus	39
\perp	39
\oplus	41
$\sigma(\)$	80
Ψ_T	146

SUBJECT INDEX

- Adamyán, Arov and Krein's theorem 210
 adjoint operator 76
- Banach space** 23
Banach dual 61
 bounded operator 69
 Bessel's inequality 34
 Bessel's equation 108
 Bessel function 108, 116
 Blaschke product 175
- Cauchy sequence 21
 Cauchy–Schwarz inequality 7
 closed linear span 16
 compact operator 89
 complete metric space 21
 complete orthonormal sequence 36, 43
 componentwise 4
 contraction 143
 convergent series 34
 convex set 26
 convolution 49
 countable set 115
- degree 208
 differential operator 70
 direct sum 41
 dual space 61
- eigenfunction 111
 eigenvalue 80, 111
 essentially bounded 158
- Fatou's theorem 164
 Fejér kernel 46
 Fejér's theorem 53
- Fourier coefficient 32
 Fourier series 32
- Green's function 120
- Hankel matrix 174
 Hankel operator 190
 Hardy space 159
 Hermitian operator 78
 Hilbert space 23
 Hilbert's Hankel matrix 191
 Hilbert's inequality 193
 Hilbert–Schmidt operator 92
 Hilbert–Schmidt norm 103
- inner function 161
 inner denominator 208
 inner product 5
 integral operator 69
 invariant 98
 inverse 72
 invertible 72
 isomorphic 38
- Julia operator 148
- kernel 69
 Kronecker's theorem 210
- Lagrange's identity 113
 linear functional 59
 linear operator 68
 linear span 16
 Lusin conjecture 53
- matrix of an operator 82

Subject index

239

- maximizing vector 196
- Möbius transformation 146
- model matching problem 185, 201
- model reduction 203
- multiplication operator 69
- multiplicity 206

- Nehari's problem 190
- Nehari's theorem 199
- Nevanlinna–Pick problem 185, 202
- norm 6, 13
- normal mode 107
- null set 25

- operator 68
- operator norm 69
- operator matrix 144
- orthogonal 31
- orthogonal complement 39
- orthogonal direct sum 41, 144
- orthogonal projection 188
- orthonormal 31
- orthonormal basis 37

- parallelogram law 8
- Parrott's theorem 150
- Parseval's formula 54
- pointwise convergence 35
- Poisson integral 162
- Poisson's kernel 162
- polarization identity 8

- positive operator 141
- pre-Hilbert space 5

- range 69
- rank 89
- Riesz–Fréchet theorem 62

- s-number 204
- Schmidt pair 206
- self-adjoint 78
- separable 38
- separation of variables 107
- shift operator 71
- singular inner function 161
- singular value 204
- singular vector 206
- spectral theorem 99
- square root 142
- spectrum 80
- stable denominator 208
- Sturm–Liouville system 110
- Sturm–Liouville theorem 131
- supremum norm 13

- Toeplitz matrix 173
- triangle inequality 8

- unitary 38

- Volterra operator 84

- Weierstrass' approximation theorem 55