

## Index

- Agmon inequalities 25
- Ascoli-Arzelà criterion 206
- attractor
  - global 4
  - local 4
- backward uniqueness property 139
- Bernoulli inequality 17
- Besov spaces 23
- Bessel potentials 205
- blow up phenomenon 92
- Bochner integral 56
- boundary
  - $C^m$  smooth 207
- Carathéodory conditions 208
- Cauchy inequality 16
- Cauchy integral formula 57
- classical solution 156
- compact resolvent 31
- complementary condition 30
- complex interpolation space 46
- condition
  - $(A_1)$  72
  - $(A_2)$  72, 203
  - $(A'_2)$  79, 203
  - $(\alpha)$  47
  - $(X^{s+\alpha}, X^s)$  148
- cone condition 207
- dissipativeness condition 105
  - local 110
- elliptic boundary value problem 29
- embedding
  - compact 207
  - continuous 206
- equilibrium 2
  - stable 165
  - uniformly asymptotically stable 166
- extension operator 207
- extension property 207
- extinction phenomenon 140
- form
  - coercive 91
  - symmetric 91
- fractional powers 42
- function
  - finitely valued 56
  - increasing 211
  - little Hölder continuous 1
  - nonnegative 211
- Gateaux derivative 199
- Gronwall inequality
  - asymptotic 18
  - generalized 19
  - uniform 18
- growth restriction
  - general 95
  - sublinear 70
- Hölder inequality 17
- Hölder semi-norm 206
- imaginary powers 45
- interpolation formula 46
- local Lipschitz condition 90
- Lyapunov function 11
- maximum principle 211, 216
- moments inequality 46
- net smoothness number 23
- Nirenberg-Gagliardo inequality
- nonnegative cone 211
- normality condition 30
- operator
  - bounded below 39
  - coercive 195
  - hemicontinuous 194
  - maximal monotone 195
  - monotone 195
  - Nemytskiĭ 208
  - perturbed 37
  - positive 42
  - positive definite 40
  - product 37
  - sectorial 32
  - self-adjoint 40
- orbit
  - complete 3
  - negative 2
  - positive 2
- order relation 211
- Poincaré inequality 95

- generalized 208
- regular parabolic i.b.v.p. 181
- resolvent equation 31
- roots condition 29
- semigroup
- analytic 34
  - asymptotically compact 15
  - asymptotically smooth 5
  - bounded dissipative 5
  - $C^0$  1
  - compact 2
  - completely continuous 14
  - point dissipative 5
- set
- absorbing 2
  - attracting 2
  - connected 4
  - invariant 2
  - $\omega$ -limit 2
  - positively invariant 2
  - separated 4
  - stable 3;
    - asymptotically 3,
    - uniformly asymptotically 3
- Sobolev embeddings
- compact 23
  - for fractional order spaces 24
  - for natural order space 23
  - for  $X^\alpha$  spaces 49
- spaces
- $B_{p,p}^s(\mathbb{R}^n)$  23
  - $B_{p,p}^s(\Omega)$  23
  - $B_{p,p,\{B_j\}}^s(\Omega)$  31
  - $C^k(\overline{\Omega})$  206
  - $C^{k+\mu}(\overline{\Omega})$  206
  - $C^{1+\frac{\mu}{m},2m+\mu}([0,\tau] \times \overline{\Omega})$  181, 221
  - $C^k((0,T),X)$  206
  - $h^{k+\theta}(\overline{\Omega})$  180
  - $h_{\{B_j\}}^{2m+\mu}(\overline{\Omega})$  181
  - $H^m(\Omega)$  205
  - $H_p^s(\mathbb{R}^n)$  205
  - $H_p^s(\Omega)$  24
  - $H_{p,\{B_j\}}^s(\Omega)$  31
  - $H_{p,\{B_j\}}^{2m\alpha}(\Omega)$  48
  - $\mathcal{L}(X,Y)$  206
  - $L^p(\Omega)$  204
  - $L^p(\Omega;\rho)$  204
  - $W^{m,p}(\Omega)$  205
  - $W^{-m,p'}(\Omega)$  205
  - $W^{s,p}(\mathbb{R}^n)$  23
  - $W^{s,p}(\Omega)$  24
  - $W_{\{B_j\}}^{s,p}(\Omega)$  31
  - $W_{\{B_j\}}^{2m,p}(\Omega)$  31
  - $W_p^{1,2m}((0,\tau) \times \Omega)$  181, 219
  - $X^\alpha$  43
  - $X_{(\geq)}$  211
  - Stokes operator 52
  - strong ellipticity condition 29
  - Volterra inequality 19
  - $X^\alpha$  solution
    - global 70
    - global mild 163
    - local 55
    - local mild 162
  - $X^{s+\alpha}$  solution 148
  - Young inequality 16