

Index

- Canonical basis in H 15, 32
- Cauchy problem for equation
 - heat 88
 - nonlinear 108, 112, 115, 121, 126
 - quasilinear 120
- Diffusion processes 138
- Dirichlet forms 133, 137
- Dirichlet problem for equation
 - Lévy–Laplace 69, 71, 74, 77, 82
 - Lévy–Poisson 70, 71, 75, 81, 83
 - Lévy–Schrodinger 84
 - nonlinear 94
 - quasilinear 92
- Formula
 - Duhamel 139
 - Lévy 7
 - Ostrogradsky 7
- Fourier–Hermite polynomials 22
- Functionals
 - Gateaux class 73, 74, 77
 - in the form of series 82
- Functions
 - cylindrical 22, 40, 48, 53
 - harmonic 8, 48, 53, 134
 - Shilov class 23, 41, 69, 70
- Fundamental domain in H 68
- Gradient of a function 6, 41
- Hessian of a function 6, 41, 53
- Lévy–Dirichlet forms 133, 137
- Lévy Laplacian 5, 6
- Lévy Laplacian for functions on a space
 - l_2 9
 - $L_2(0, 1)$, 10
 - $L_2; m(0, 1)$, 12
- Lemma
 - Borel–Cantelli 56, 64
 - Kronecker 57, 62
- Markov
 - processes 133, 137
 - semigroup 138, 140
- Mathematical expectation 34, 43, 55, 59
- Matrix
 - Gramm 66
 - translationally non-positive 67
- Mean value of
 - function 5
 - Gaussian measure 13, 22
 - random variable 34, 43, 55, 59
- Measure
 - centred 13
 - Gaussian 13, 22
 - Lebesgue 6, 13
 - Wiener 16, 77
- Mixed variational derivative 10
- Moments of the measure 14
- Operator
 - compact 23, 63
 - correlation 13, 16, 22, 133
 - Hilbert–Schmidt 23, 44, 133
 - generating 23
 - thin 23, 69
 - trace class 13, 17, 22, 50
- Operator Lévy–Laplace
 - arbitrary order 33

- Operator Lévy–Laplace (*cont.*)
 essentially self-adjoint 51, 137
 multiplication by the function 50, 136
 second order 30
 symmetrized 40
- Orthonormal basis in
 H 6, 22, 41
 $\mathcal{L}_2(H, \mu)$ 29, 31, 35, 45
- Orthonormal system polynomials 23
- Partial variational derivative 11
- Probability space 14
- Riccati equation 134
- Riquier problem for equation
 linear 87
 nonlinear 99
 polyharmonic 86
 quasilinear 96
- Space
 $C_0(0, 1)$ 16
 H 5
 H_+ 23
 H_- 23
 H_β 23
 l_2 9
- $L_2(0, 1)$ 9
 $\hat{L}_2(0, 1)$ 16, 77
 $L_2; m(0, 1)$ 11
 $L_2(H, \mu)$ 22
- Steklov mean 72
- Stochastic processes 137
- Strong law of large numbers 34, 43, 54
- Sturm–Liouville problem 10
- Surface in H 68
- Theorem
 Berezansky 30
 Etemadi 66
 Levi B. 134
 Liouville 9
 Men’schov–Rademacher 61
 Petrov 55, 59, 63
 Polischuk 74, 75, 87
 Shilov 69, 70
- Tensor product 23
- Uniformly dense basis in
 $L_2(0, 1)$ 10
 $L_2; m(0, 1)$ 12
- Variance 34, 43, 59
- Variational derivative 10