

Index

- Absolute convergence I: 29
- Absolutely continuous function I: 64
 - measurable set I: 106
- Absorbing state I: 136
- Accessible boundary II: 159
- Additive functional I: 7, 173
- Adjoint of a mapping I: 208
 - space I: 20
 - operator I: 20
- Almost additive functional I: 174
 - contracting functional I: 282
 - equivalent functionals I: 174
 - finite functional I: 174
 - homogeneous functional I: 174
 - multiplicative functional I: 282
 - nonnegative functional I: 174
 - (right-) continuous functional I: 174
 - sure convergence I: 178
 - sure equality I: 85
- α -subprocess I: 312
- (α, ξ) -subprocess I: 308
- Atlas I: 150
- Attracting boundary II: 153

- B^+ -potential II: 2
- Banach space I: 19
- Barrier II: 35
- Base of a topological space II: 218
- Bessel process I: 334
- Blaschke-Privalov operator I: 332
- Borel-Cantelli lemma II: 204
- Borel function II: 115, 222
 - set II: 222
- Boundary II: 218
 - conditions I: 148; II: 139
- Bounded vector-valued function II: 115
 - linear mapping I: 20
 - process I: 92
 - sample function I: 111
- Brownian motion I: 1
 - with drift II: 114, 116
 - with killing measure μ II: 101
 - with killing measure μ and speed measure ν II: 97
 - with parameters (m, n) II: 177
 - with speed measure ν II: 101
- Canonical coordinate II: 173
 - diffusion process I: 167
 - process I: 87
- Cauchy-Buniakovskii inequality II: 210
- Characteristic differential form II: 173
 - function II: 202
 - of a functional I: 185
 - of a regular process II: 136
 - operator I: 3, 141
 - operator in a given totology I: 141
 - operator in the intrinsic topology I: 171
- Chebyshev's inequality II: 211
- Closed set II: 218
- Closure II: 218
- Coefficient of diffusion I: 4, 154
 - of drift I: 4, 154
 - of termination I: 4
- Coincidence of measures on a set I: 261
- Collapsing of the state space I: 333
- Compact II: 219
 - space II: 219
- Complete process I: 83
 - space II: 220
- Completion of a measure II: 204
 - of a σ -algebra II: 204
- Conditional expectation II: 212
 - probability II: 212
- Cone I: 30
- Connected component II: 218
 - set II: 218
- Conservative transition function I: 47
- Continuous function II: 221
 - functional I: 8, 173
 - mapping II: 220
 - process I: 87
 - semigroup I: 30
 - solution I: 148
- Contracting functional I: 282
- Contraction semigroup I: 22
- Convergence II: 219
 - in measure II: 204
 - in probability I: 177, 181; II: 211
 - in quadratic mean I: 178, 181; II: 211

- Convex function II: 238
- Coordinates I: 149
- Coordinate system I: 149
- Countably additive function II: 207
- Covering II: 219
- Curtailement of lifetime I: 301
- Cycle II: 124
- \mathcal{Q} -harmonic function II: 45
- \mathcal{Q} -superharmonic function II: 45
- δ -functional I: 245
- δ -solution I: 345
- Derivative II: 209
- Differentiable boundary II: 41
 - function II: 235
 - manifold I: 150
 - measure II: 209
 - structure I: 150
- Differential form II: 169
 - generator I: 4, 154
 - operator $D_v D_u^+$ II: 139
 - operator of second order I: 151
- Diffusion coefficient I: 4, 154
 - process I: 4, 152, 167
 - process at a boundary point I: 6
- Dimension of a differentiable manifold I: 150
- Dirichlet problem II: 32
- Domain II: 218
- Drift coefficient I: 4, 154
- Elliptic operator I: 151
- Enlargement of the basic σ -algebra I: 87
- ε -neighborhood II: 219
- Equivalent classes of sets I: 109
 - functionals I: 173
 - processes I: 86
 - random variables II: 12
 - solutions I: 343
- Euclidean space II: 220
- Everywhere dense set II: 219
- Excessive element I: 43
 - function I: 196; II: 1
 - function for a process II: 4
 - random variables I: 314
- Exit distribution I: 13, 114
- Extension of an operator I: 4
 - of a process II: 192
- f -boundary II: 157
- Fatou's lemma II: 206
- Feller function I: 52
- Finite countably additive function II: 208
- Finite functional I: 173
 - measure II: 204
- First contact time with a set I: 105, 106
- First entrance time into a set I: 105, 106
- First exit time from a class of sets I: 105
 - from the interior of a set I: 105, 106
 - from a set I: 105, 106, 115
- Fokker-Planck equation I: 168
- Fubini's theorem II: 207
- Full measure, set of I: 85, 173
- Function of bounded variation II: 231
 - of locally bounded variation II: 232
 - with compact support II: 221
- Functional of a Markov random function I: 172
 - of a Markov process I: 172
- Fundamental domain I: 333
 - solution II: 226, 228
- Generalized Brownian motion I: 13
 - potential II: 245
 - solution I: 5
- Generated σ -field II: 202
- Gradient I: 233
- Green's function II: 55, 199
 - potential II: 61, 78
- H -function I: 57
- H -infinitesimal operator I: 57
- Hahn-Banach theorem I: 20
- Harmonic coordinates I: 9
 - element I: 45
 - function I: 9; II: 24
 - minorant I: 45; II: 83
- Hausdorff space II: 218
- Hölder condition II: 225
 - function I: 158
 - operator I: 156
- Homogeneous functional I: 173
- i -boundary II: 157
- I -function II: 11
- I -variable II: 12
- Inaccessible boundary II: 159
- Indefinite integral II: 170
- Indicator of a set II: 202
- Infinitesimal operator of a process I: 3
 - of a semigroup I: 22
 - of a transition function I: 55, 57
- Initial condition I: 148
 - probability distribution I: 81

- Instantaneous state I: 136
 Integral II: 206
 Integral functional I: 222
 Intrinsic differentiable structure I: 9
 — measure II: 136
 — scale II: 136
 — topology I: 2, 116
 Invariant process I: 329

 Jump process I: 93
 — time I: 93

 K^+ -potential I: 44
 Killing function II: 136
 — measure I: 11
 Kolmogorov's backward differential
 equation I: 167
 — forward differential equation I: 168

 L^+ -potential I: 44
 \mathcal{L} -system II: 203
 λ -system II: 201, 202
 Laplace operator I: 233
 Left-derivative II: 235
 Lifetime I: 78
 Linear functional I: 19
 — local operator I: 145
 — operator I: 20
 Local generator II: 184
 — operator I: 145
 Locally compact space II: 219
 — finite function II: 74
 — integrable function II: 65

 Markov family of random functions I: 79
 — principle I: 1
 — process I: 2, 77, 85
 — process on a topological space
 I: 87
 — random function I: 79
 — time I: 97
 Martin boundary I: 18; II: 258
 Martingale II: 214
 Mathematical expectation II: 210
 Mean exit time I: 114
 Metric space II: 219
 Metrizable topological space II: 220
 Measurable function II: 202
 — process I: 98
 — space II: 202
 — transformation II: 202
 Measure II: 204
 — on a topological space II: 223

 Minimal boundary point II: 258
 — harmonic function II: 153, 258
 Minimum principle I: 3, 141, 145
 Moment of first contact with a set
 I: 105, 106
 — of first entrance into a set I: 105, 106
 — of first exit from a class of sets
 I: 105
 — of first exit from the interior of a
 set I: 105, 106
 — of first exit from a set I: 105, 106, 115
 — of termination I: 2, 78
 Monotone sequence of partitions II: 217
 μ -subprocess of a Wiener process II: 97
 Multiplicative functional I: 281

 Nearly Borel function I: 85
 — Borel set I: 85
 Negative differential form II: 173
 Neighborhood II: 218
 Nonnegative differential operator I: 151
 — function II: 202
 — functional I: 173
 — matrix I: 151
 Non-terminating process I: 78
 Norm of a linear functional I: 19, 20
 — of a linear operator I: 20
 — of a vector I: 19
 Normal class of sets I: 109
 — function II: 169
 — transition function I: 47
 Numerical functional I: 173

 One-dimensional Markov process
 II: 119
 Open cone II: 40
 — neighborhood II: 218
 — set II: 218
 Orbit I: 332

 Path I: 1, 78
 Part of a process I: 302
 Partition of an interval I: 210
 — of a space II: 213
 Perfect functional I: 173
 π -system II: 201
 Poisson process I: 96
 — transition function I: 49
 Positive differential form II: 173
 — differential operator I: 151
 — matrix I: 151
 — measure II: 94
 Potential I: 26

- Probability II: 210
 — density of termination I: 154
 — measure II: 204
 — space II: 210
 Process governed by a stochastic
 integral equation I: 349
 — with parameters (γ, m, n) II: 180
 — without drift II: 175
 — whose only discontinuities are
 jumps I: 92
 q -subprocess II: 112
 Quasi-characteristic operator I: 16
 Quasi-continuous from the left I: 103
 Quasi-diffusion process I: 16
 Quasi-infinitesimal operator I: 16
 Quasi-transition function I: 283

 Radon-Nikodym theorem II: 210
 Random events I: 1; II: 210
 — time change I: 12, 320
 — variable II: 210
 — variable independent of the future
 I: 97
 Recurrent process II: 126
 Reflection I: 328
 Repelling boundary II: 153
 Regular boundary II: 33
 — harmonic function II: 111
 — point II: 32
 — process I: 9; II: 121, 132, 179
 — process without drift II: 179
 — superharmonic function II: 111
 Resolvent I: 25
 Restriction of an operator I: 4
 — of an operator, determined by
 boundary conditions II: 139
 Right-continuous functional I: 173
 — process I: 87
 Right-derivative II: 235
 Rough characteristic of a functional
 I: 196

 S-function II: 155
 S-functional I: 246
 S_+ -function II: 157
 S-measure I: 269, 274
 s -continuity I: 21
 s -differentiability I: 21
 s -integrability I: 21
 Sample point II: 210
 — space I: 1, 78
 Second order differential operator I: 151
 Semi-compact II: 219

 Semigroup I: 22
 Separability II: 214, 219
 Set of full measure I: 85, 173
 Shift of a function I: 2, 78
 σ -additive function II: 207
 σ -algebra II: 201
 σ -compact space II: 219
 σ -finite countably-additive function
 II: 208
 σ -finite measure II: 204
 Smoothly related coordinate systems
 I: 149
 Solution of the Dirichlet problem II: 32
 — of the stochastic Dirichlet problem
 II: 32
 — of a stochastic integral equation
 I: 343, 344
 Speed measure I: 13
 Splitting of sample points I: 86
 Stable state I: 136
 Standard process I: 104
 — triple II: 180
 Standardized (α, ξ) -subprocess
 I: 317, 318
 State space II: 202
 Step function I: 210
 — process I: 93
 Stochastic Dirichlet problem II: 32
 — integral I: 208, 212
 Stochastically continuous transition
 function I: 53
 Stopped process I: 303
 Strict minimum principle I: 145
 Strictly convex function II: 238
 — excessive element I: 44
 Strip II: 227
 Strong convergence I: 19
 — diffusion process I: 156
 — f -boundary II: 158
 — Feller function I: 58
 — Feller process II: 28
 — Markov process I: 2, 99
 Strongly measurable process I: 98
 — repelling boundary II: 153
 Subharmonic function II: 24
 Submartingale II: 214
 Subordinate class of sets I: 109
 — process I: 87
 Subprocess I: 10
 —, corresponding to an excessive ran-
 dom variable I: 315
 —, corresponding to a regular super-
 harmonic function II: 112

- Subspace I: 20
 Summable function II: 206, 208
 Superharmonic function I: 8; II: 15, 16
 Supermartingale II: 214
 Support of a function II: 221

 Termination coefficient I: 4
 — density I: 11, 313
 Terminal time I: 2, 78
 Time-inversion I: 127
 Topological measure space II: 222
 — product space II: 219
 — space II: 218
 — state space II: 222
 Trace of operator I: 209
 Trajectory I: 1, 78
 Transformation of measures I: 306
 — of the sample space I: 86
 — of the state space I: 325
 Transient process II: 126
 Transition density I: 47
 — function I: 1, 47, 85
 — function on a metric space I: 70
 — function on a topological space I: 52

 (u, v) -smooth function II: 138, 139
 Unbounded linear operator I: 21
 Uniform almost sure convergence
 I: 178, 181
 — convergence in probability I: 178, 181
 — motion I: 49, 96
 Uniformly stochastically continuous
 transition function I: 70
 (Upper, lower) semi-continuous func-
 tion II: 221

 V -functional I: 185
 V^+ -potential II: 2
 Variation II: 208
 Vector-valued functional I: 173

 w -continuity I: 37
 — differentiability I: 37
 — integrability I: 37
 — measurability I: 37
 W -function I: 191
 W -functional I: 185
 W -measure I: 253; II: 84
 Weak convergence I: 20
 — convergence of measures II: 223
 — f -boundary II: 158
 — measurability I: 33
 Weak infinitesimal operator
 — of a process I: 133
 — of a semigroup I: 37
 — of a transition function I: 55, 57
 Weakly repelling boundary II: 153
 Weeding of sample points I: 86
 Wiener process I: 4, 97, 246
 — process on the circle I: 333
 — process with reflection I: 97, 328
 — random function I: 208
 — transition density I: 49
 — transition function I: 49
 — process with terminal at point 0
 I: 97

 X -integrable function I: 237

 Zero-one law I: 84

List of symbols

(a.s.)	I: 174, 178, 209, 346; II: 210	$\ \cdot \ $	I: 19, 20, 49, 61, 186
\mathcal{C} -lim	I: 140	\cdot^n	II: 203
$\Gamma \downarrow x$		\cdot^∞	II: 203
grad	I: 233	\cdot^{-1}	I: 81; II: 202
l.i.m.	I: 178, 188; II: 211	$\cdot +$	I: 43
lim	I: 133	$\cdot *$	I: 36, 117
$S_T \downarrow x$		\cdot^0	I: 22
lim	I: 74	$\tilde{\cdot}^0$	I: 36
$x \rightarrow \infty$		$[\cdot]$	I: 201
$\underline{\lim}$	I: 103; II: 221	(\cdot, \cdot)	I: 50
$\overline{\lim}$	II: 221	A	I: 3, 22, 55
(p.)	I: 177	$A^{(k, \lambda)}$	II: 225
(q.m.)	I: 178	\tilde{A}	I: 37, 55
s lim	I: 19	a^{ij}	I: 151
w lim	I: 20	a^α	I: 352
(unif. a.s.)	I: 178	a_λ	I: 294
(unif. p.)	I: 178	\mathcal{Q}	I: 3, 140
Var	II: 208	$B = B(E, \mathcal{B})$	I: 49
+	II: 207	B'	II: 162
-	II: 75	B^+	II: 1
\times	II: 203	B_0	I: 55
\geq, \leq	I: 261; II: 2	B_1	I: 55
\supseteq, \subseteq	I: 186, 210	\tilde{B}_0	I: 55
$\succ, \succ_{\mathbf{a}}, \approx$	II: 153, 157	b^i	I: 151
\downarrow	I: 261	\mathcal{B}	I: 47, 116, 247; II: 119
\uparrow	II: 205	$\mathcal{B}_{\mathbb{R}}$	II: 223
\xrightarrow{h}	I: 238	\mathcal{B}_{σ}	II: 96
\xrightarrow{k}	I: 211	\mathcal{B}_f	II: 202
\xrightarrow{q}	I: 214	\mathcal{B}_Δ	I: 33
\xrightarrow{s}	I: 19, 50	\mathcal{B}	I: 47, 83; II: 204
\xrightarrow{w}	I: 20, 50	$\hat{\mathcal{B}}$	I: 85
$\xrightarrow{\mu}$	II: 204	$\tilde{\mathcal{B}}$	II: 169
$\frac{d \cdot}{d \cdot}$	I: 247; II: 102	$C = C(E, \mathcal{C})$	I: 51
\int	I: 21, 37, 212, 237, 238; II: 170, 206, 233	$C = C(E, \mathcal{C}, \mathcal{B})$	I: 51
$ \cdot $	I: 208; II: 208	C^0	I: 62; II: 109
		C^k	I: 9; II: 225
		$C^{(k, \lambda)}$	II: 225
		C'	I: 62; II: 162
		$\hat{C} = \hat{C}(E, \mathcal{C})$	I: 74

c	I: 4, 151	$k_i^*(x)$	I: 248
c_i	I: 78	$\tilde{k}_i(x)$	I: 248
\mathcal{C}_0	I: 116	$\mathcal{K} = \mathcal{K}(I) = \mathcal{K}(I, L)$	I: 209, 210
D_v	II: 235	$\mathcal{K}(I, E)$	I: 221
D_v^+, D_v^-	II: 235	\mathcal{K}^*	I: 237
$D_v D_u^+$	II: 139	\mathcal{K}^x	I: 238
$\mathcal{D}(G)$	II: 118	\mathcal{K}^δ	I: 246
$\mathcal{D}(u, v; x)$	II: 139	\mathcal{K}^μ	I: 237
$\mathcal{D}(x)$	I: 151	\mathcal{K}_0	I: 211
\mathcal{D}_A	I: 22, 55	\mathcal{K}_1	I: 210
$\mathcal{D}\mathfrak{A}$	I: 140	$\mathcal{K}_0^*, \mathcal{K}_1^*, \mathcal{K}_0^\mu, \mathcal{K}_1^\mu$	I: 239
$\mathcal{D}\mathfrak{A}(x)$	I: 145	$L = L(E, \tilde{E})$	I: 208
$\mathcal{D}\mathfrak{D}$	II: 103	$L(\Gamma)$	I: 91
\mathcal{D}_μ	II: 102	$l(x)$	II: 135
$\mathcal{D}\Psi$	II: 74	M	I: 208, 334, 346; II: 210
\mathfrak{D}	I: 151; II: 45, 102, 118	$\mathbf{M}(\cdot \cdot)$	II: 212
\mathfrak{D}_0	II: 107	\mathbf{M}_x	I: 3
E	I: 1, 47, 247; II: 119	\mathbf{M}_φ	I: 81
E_a^+, E_a^-	II: 120	$M(\Gamma)$	I: 92
E_c^i	II: 149	$m(x)$	II: 38, 129, 132
(E, \mathcal{B})	I: 47, 77	$m(x, c_1, c_2), m_i(x, a)$	II: 131
(E, \mathcal{C})	II: 218	$m_G(x)$	I: 114
$(E, \mathcal{C}, \mathcal{B})$	I: 51; II: 222	\mathcal{M}^0	I: 77
(E, \mathcal{F})	I: 150	\mathcal{M}_i	I: 2, 77
(E, ϱ)	II: 219	\mathcal{M}_{i+0}	I: 87
$(E, \varrho, \mathcal{B})$	I: 70	\mathcal{M}_x	I: 98
e^A	I: 28	$\mathcal{M}^0, \mathcal{M}_i$	I: 83
F_i^*	I: 104	\mathfrak{M}^e	I: 331; II: 65
\hat{F}_i^*	I: 105	$N(\Gamma)$	I: 91
$f(\infty)$	I: 74	$N'(\Gamma)$	I: 95
f_+, f_-	II: 203	$n(x)$	II: 135
f_i, f_{ij}	I: 153	\mathcal{N}	I: 80
$f_{\alpha}, f_{\alpha\beta}$	I: 68	\mathcal{N}^0	I: 80
$\mathcal{F}[\cdot]$	II: 201	\mathcal{N}^*	I: 81
$\mathcal{F}(x, U)$	I: 140	\mathcal{N}_i	I: 80
\mathcal{F}_x	I: 150	\mathcal{N}_{i+0}	I: 106
G_φ	II: 78	\mathcal{N}_A	I: 285
$g_v(x) = g(x, y)$	II: 55, 59	\mathcal{N}_x^*	I: 127
$g_\lambda(x, y)$	II: 87	\mathcal{N}_i^δ	I: 245
$\mathfrak{G}\Gamma$	I: 332	\mathcal{N}	I: 83, 172, 208, 334
H	II: 148	\mathcal{N}'	II: 12
H^+, H_i, H_i^+	II: 149	$\mathcal{N}(\mu)$	I: 85
$\mathcal{H}(I, \tilde{E})$	I: 334	\mathcal{N}_i	I: 83, 208, 334
$\mathcal{H}^\delta(I, \tilde{E})$	I: 334	$\mathcal{N}_i(\mu)$	I: 85
$\mathcal{H}^\mu(I, \tilde{E})$	I: 343	\mathcal{N}_{i+0}	I: 108
$I(\omega)$	I: 172	\mathfrak{N}^e	II: 65
I_x	I: 346	P	I: 79, 208, 334, 346, 349
$K = K(G)$	II: 74	$\mathbf{P}(\cdot \cdot)$	II: 212
$K_i^* f$	I: 248	\mathbf{P}_{r_j}	II: 131
$k_i(x)$	I: 248		

\mathbf{P}_z	I: 1, 77	$(x_i, \zeta, \mathcal{M}_i, \mathbf{P})$	I: 79
\mathbf{P}_φ	I: 80	$(x_i, \zeta, \mathcal{M}_i, \mathbf{P}_z)$	I: 2, 77
$\bar{\mathbf{P}}_z$	I: 102	$\alpha = \alpha_i^t$	I: 281
$P(t, x, \Gamma)$	I: 1, 47, 78	α_i, β_i	II: 129, 132
$p(t, x, y)$	I: 47, 56	$\gamma(X)$	I: 325
$p(x)$	II: 129	$\gamma(x)$	II: 71
$p_i(x)$	I: 247	$\gamma(\Phi, V)$	I: 222
$\mathcal{P}(I, \tilde{E})$	I: 222	Δ	I: 4, 68, 233
Q_x^+	I: 120	$\Delta_S(\varphi)$	I: 186
Q_x, Q_x^-	I: 121	ζ	I: 2, 77
$q_i(x)$	II: 149	ζ_i	I: 176
$q_i(x)$	I: 255	θ_i	I: 81, 82
Rg	I: 26	θ_γ	I: 329
R_x^+	I: 120	$\theta_{\gamma, \lambda}$	I: 330
R_x, R_x^-	I: 121	θ_τ	I: 99
$R\lambda g$	I: 24, 55	$\lambda(\Gamma)$	II: 79
$R\lambda(x, \Gamma)$	I: 56	μ	I: 13, 14; II: 102
r_i	II: 127	μ	II: 102
$r_\lambda(x)$	II: 88	$\mu(x)$	II: 132
$r_\lambda(x, y)$	I: 56	μ_f	II: 102
$S(c_1, c_2)$	II: 155	$\pi(x, a_1, a_2), \pi_i(x, a),$ $\pi_i(x, a_1, a_2)$	II: 120
$S(L, \Delta)$	I: 33	$\pi_G(x, \Gamma)$	I: 114
$S_i(\Delta)$	II: 157	$\varrho(x, y)$	I: 90; II: 220
S_x, S_x^+, S_x^-	I: 121	$\varrho(x, \Gamma)$	II: 222
S_λ	I: 295	$\sigma(\cdot)$	II: 222
S_ϱ	II: 65	$\sigma^\alpha(x), \sigma^{\alpha\beta}(x)$	I: 352
S_τ	I: 133	$\tau(\cdot)$	I: 3, 106, 116, 142
s_r	II: 65	$\tau_1(a), \tau_2(a)$	II: 120
$T_i^;$	I: 3, 22, 49;	τ_a, τ_{a+0}	I: 107
	II: 1	$\tau_\eta, \tau_{\eta+0}$	I: 115
T_τ	I: 3	$\varphi = \varphi_i^t$	I: 7, 172
U_i	I: 50	$\varphi(c)$	II: 160
$U_g(x)$	I: 70; II: 219	$\varphi(\mu)$	II: 84
$U_\varrho(x)$	I: 331; II: 65	$\varphi(\Phi, \mu)$	I: 237
u_ϱ	II: 65	φ_f	II: 169
\mathcal{U}	I: 141; II: 11	$\varphi_\alpha(\Gamma)$	II: 170
$\mathcal{U}(\cdot)$	I: 109; II: 15	χ_A	I: 5
$V = V(E, \mathcal{B})$	I: 49	Ψ	I: 14; II: 74
$V(X)$	I: 185	ψ_f	II: 74
V^+	II: 1	Ω	I: 1
V_β	I: 60	$\Omega(E)$	I: 81
$V_\beta(E, \mathcal{B})$	I: 61	Ω'	II: 98
$W = W(E, \mathcal{B}, \beta)$	I: 61	Ω_E	I: 87, 290
$W(X)$	I: 185	Ω_i	I: 77
$w(r)$	I: 248	Ω_ξ	II: 210
X	I: 2, 77, 207, 334	Ω_τ	I: 98
X^z	I: 79	Ω_i^t	I: 174
X^μ	I: 85	$(\Omega, \mathcal{M}, \mathbf{P})$	II: 210
$X_\mathcal{G}$	I: 333		
x_i	I: 1, 4		
$x_i^;$	II: 153		