

Author index

- Abramowitz, M., 276, 372
 Agahanov, C. A., 62, 372
 Akhiezer, N. I., 94, 135, 372
 Andrews, G. E., xii, 28, 372
 Aomoto, K., 254, 372
 Appell, P., x, 28, 37, 40, 46, 49, 61, 133,
 136, 254, 372
 Askey, R., xii, 28, 203, 266, 284, 371,
 372
 Axler, S., 60, 372

 Badkov, V., 224, 372
 Bailey, W. N., x, 28, 216, 280, 372
 Baker, T. H., 254, 335, 350, 372
 Beerends, R. J., 254, 325, 335, 373
 Benson, C. T., 137, 174, 376
 Berens, H., 61, 62, 135, 281, 284, 373
 Berg, C., 73, 74, 135, 373
 Bergeron, N., 325, 373
 Bertran, M., 135, 373
 Bojanov, B., 253, 373
 Bos, L., 284, 373
 Bourdon, B., 60, 372
 Braaksma, B. L. J., 60, 373
 Brinkman, H. C., 62, 383
 Buchstaber, V., 174, 373

 Calogero, F., 371, 373
 Chen, K. K., 285
 Cheney, E. W., 284, 373
 Cherednik, I., 335, 373
 Chevalley, C., 173, 373
 Chihara, T. S., 29, 373
 Christensen, J. P. R., 73, 373
 Connert, W. C., 61, 373
 Constantine, A. G., 325, 377
 Cools, R., 136, 381
 van der Corput, J. G., 58, 373
 Coxeter, H. S. M., 137, 142, 173, 174,
 374

 Debiard, A., 254, 374
 DeVore, R. A., 284, 374
 Didon, F., 40, 62, 133, 136
 van Diejen, J. F., 371, 374
 Dieudonné, J., xii, 374
 Dijknsma, A., 60, 374
 Dubiner, M., 61, 374
 Dunkl, C. F., 60, 62, 158, 174, 223, 224,
 253, 335, 336, 370–372, 374,
 375
 Dunn, K. B., 254, 375

 Eier, R., 254, 375
 Engelis, G. K., 61, 62, 375
 Engels, H., 136, 375
 Erdélyi, A., x, xi, 28, 37, 40, 46, 49, 61,
 63, 112, 133, 136, 213, 248,
 253, 254, 285, 375
 Exton, H., 6, 28, 375

 Fackerell, E. D., 61, 375
 Felder, G., 174, 373
 de Fériet, J. K., x, 28, 37, 40, 46, 49, 61,
 133, 136, 254, 372
 Folland, G. B., 62, 375
 Forrester, P. J., 254, 335, 350, 371, 372
 Freud, G., 29, 73, 284, 375
 Fuglede, B., 73, 135, 375

 Garsia, A. M., 325, 373
 Gasper, G., xii, 279, 281, 284, 375, 376
 Gaveau, B., 254, 374
 Gekhtman, M. I., 135, 376
 Görlich, E., 276, 376
 Groemer, H., 60, 376
 Grove, L. C., 137, 174, 376
 Grundmann, A., 48, 61, 376

 Hanlon, P., 336, 375
 Haviland, E. K., 73, 376

Cambridge University Press

978-0-521-80043-3 - Orthogonal Polynomials of Several Variables

Charles F. Dunkl and Yuan Xu

Index

[More information](#)*Author index*

385

- Heckman, G. J., 169, 174, 335, 376
 Helgason, S., 60, 224, 376
 Hermite, C., 40, 133, 136
 Higgins, J. R., 75, 376
 Hoffman, M. E., 254, 376
 Horn, R. A., 70, 80, 376
 Hua, L. K., xii, 376
 Humphreys, J. E., 137, 174

 Ignatenko, V. F., 151, 376
 Ikeda, M., 62, 376

 Jack, H., 325, 371, 377
 Jackson, D., 63, 69, 135, 377
 James, A. T., 325, 377
 de Jeu, M. F. E., 158, 375, 377
 Johnson, C. R., 70, 80, 376

 Kakei, S., 371, 377
 Kalnins, E. G., 223, 377
 Kalyuzhny, A. A., 135, 376
 Kanjin, Y., 62, 377
 Karlin, S., 62, 377
 Kato, Y., 371, 377
 Kim, Y. J., 61, 377
 Klimyk, A. U., xii, 62, 381, 382
 Knop, K., 335, 377
 Koelink, E., xii, 377
 Kogbetliantz, E., 266, 377
 Koornwinder, T. H., x, xii, 55, 60–62,
 254, 374, 377, 381
 Koschmieder, L., 285
 Koschmieder, L., 62
 Kowalski, M. A., 135, 378
 Krall, H. L., 60, 63, 135, 378
 Kwon, K. H., 61, 377

 Lapointe, L., 335, 371, 378
 Laporte, O., 174, 378
 Lassalle, M., 336, 371, 378
 Lebedev, N. N., x, 320, 378
 Lee, J. K., 61, 377
 Li, Zh.-K., 285, 286, 378
 Lidl, R., 254, 375
 Littlejohn, L. L., 61, 378
 Littler, R. A., 61, 375
 Logan, B., 253, 378
 Lorentz, G. G., 257, 284, 374, 378
 Lyskova, A. S., 61, 378

 Macdonald, I. G., 223, 325, 350, 378
 Maiorov, V. E., 253, 378
 Markett, C., 276, 376, 378
 Máté, A., 284, 378
 McGregor, J., 62, 377
 Mehta, M. L., 378
 Meulenbeld, B., 60, 373

 Miller, W. Jr., 223, 377
 Möller, H. M., 48, 61, 135, 376, 379
 Morrow, C. R., 136, 379
 Moser, W. O. J., 174
 Müller, C., 60, 223, 379
 Mysovskikh, I. P., 119, 120, 135, 136,
 379

 Nagy, B. Sz., 90, 380
 Nelson, E., 94, 379
 Nevai, P., 224, 258, 284, 378, 379
 Nishino, A., 371, 379
 Noumi, M., xii, 379
 Nussbaum, A. E., 73, 379

 Okounkov, A., 335, 379
 Olshanski, G., 335, 379
 Opdam, E. M., 62, 158, 173, 254, 325,
 335, 370, 373, 375, 376, 379

 Patterson, T. N. L., 136, 379
 Petrova, G., 253, 373
 Petrushev, P., 253, 379
 Podkorytov, A. M., 284, 379
 Proriol, J., 61, 62, 379
 Putinar, M., 135, 136, 379

 Radon, J., 135, 379
 Rahman, M., xii, 376
 Ramey, W., 60, 372
 Ramirez, D. E., 60, 375
 Ressel, P., 73, 373
 Reznick, B., 135, 379
 Ricci, P. E., 254, 380
 Riesz, F., 90, 380
 Rosengren, H., 253, 380
 Rosier, M., 61, 380
 Rösler, M., 166, 174, 191, 254, 371, 380
 Roy, R., xii, 28, 372
 Rozenblyum, A. V., 380
 Rozenblyum, L. V., 380
 Rudin, W., 265, 380

 Sahi, S., 335, 377, 380
 Schaake, G., 58, 373
 Schmid, H., 61, 62, 135, 136, 373
 Schmüdgen, K., 73, 380
 Schwartz, A. L., 61, 373, 377
 Selberg, A., 350, 380
 Sheffer, I. M., 60, 63, 135, 378
 Shephard, G. C., 149, 380
 Shepp, I., 253, 378
 Shishkin, A. D., 62
 Shohat, J., 73, 135, 380
 Sprinkhuizen-Kuyper, I., 61, 378, 380
 Stanley, R. P., 321, 325, 371, 380
 Stegun, I., 276, 372

386

Author index

- | | |
|--------------------------------------|---|
| Stein, E. M., 60, 224, 266, 284, 380 | Vilenkin, N. J., xii, 62, 381, 382 |
| Stokma, J. V., xii | Vinet, L., 335, 371, 374, 378 |
| Stokman, J. V., 381 | Voit, M., 371, 380 |
| Stroud, A., 136, 381 | Volkmer, H., 223, 382 |
| Suetin, P. K., 61, 69, 135, 381 | Vretare, L., 254, 382 |
| Sutherland, B., 371, 381 | |
| Szegő, G., x, 29, 259, 265, 275, 381 | |
| | Wadati, M., 371, 379, 381 |
| Tamarkin, J., 73, 135, 380 | Weiss, G., 60, 224, 266, 284, 380 |
| Thangavelu, S., 276, 279, 286, 381 | Withers, W. D., 254, 376 |
| Thill, M., 74, 373 | |
| Totik, V., 284, 378 | Xu, Y., 61, 62, 94, 135, 136, 223, 253,
254, 281, 284–286, 373, 378,
382, 383 |
| Tratnik, M. V., 223, 377, 381 | |
| | Yamamoto, T., 371, 377, 383 |
| Uglov, D., 371, 381 | Yan, Z. M., 371, 383 |
| Ujino, H., 371, 379, 381 | |
| | Zernike, F., 62, 383 |
| Vasilescu, F., 135, 379 | Zygmund, A., 260, 383 |
| Verlinden, P., 136, 381 | |
| Veselov, A., 174, 373 | |

Symbol index

$(t)_\lambda$	308	$P_n(H; x, y)$	131
$(x)_n$	2	$P_n^\lambda(x)$	17
$\langle p, q \rangle_\partial$	185	$P_n^{(\alpha, \beta)}(x)$	21
$\langle p, q \rangle_h$	185	R	139
$\langle p, q \rangle_P$	312	$R(w)$	138
$\langle p, q \rangle_B$	339	R_+	139
$ \alpha $	30	$SO(d)$	137
$ x _1$	46	S^{d-1}	33
$\ f\ _A$	165	S_d	142
∇_κ	157	$S_n(f)$	106
\triangleright	288	T^d	46
$\text{proj}_{n,h} P$	181	$T_n(x)$	20
$A(B^d)$	165	$U_\alpha(x)$	43, 49
$B(x, y)$	1	$U_n(x)$	21
B^d	38	V	157
$C_n^\lambda(x)$	18	$V(x)$	167
$C_n^{(\lambda, \mu)}(x)$	26	$V_\alpha(x)$	41, 47
$E_\alpha(x; 1/\kappa)$	323	$W^H(x)$	49
E_λ	301	$W_\kappa^T(x)$	46
F_A	6	$W_H^B(x)$	127
F_B	6	$W_H^m(x)$	132
F_C	6	$W_\kappa^L(x)$	51
F_D	6	W_d	143
G_n	66	$W_{a,b}(x)$	37
$H_n(x)$	14	$\#S_d(\alpha)$	303
$H_n^\mu(x)$	25	$\Gamma(x)$	1
$J_A(t)$	219	\mathcal{D}_i	152
$J_\lambda(x; 1/\kappa)$	304, 325	$\tilde{\mathcal{D}}_i^*$	184
J_i	89	\mathcal{D}_i^*	182
$J_{n,i}$	114	\mathcal{D}_u	152
$K_W(x, y)$	168	Δ	34
$L_n^\alpha(x)$	15	Δ_h	156
L_n	76	\mathcal{E}_ε	302
$L_{n,i}$	76	\mathcal{H}_n^d	34
$M_\alpha(x)$	69	$\mathcal{H}_n^d(h_\kappa^2)$	177
$O(d)$	137	$\mathcal{H}_n^{d+1}(H)$	129
$P_\alpha^{n, -\frac{1}{2}}(x)$	53	$\mathbf{K}_n(x, y)$	106
$P_\alpha^{n, \frac{1}{2}}(x)$	53	$\mathcal{L}(\Pi^d)$	170
		\mathcal{L}_s	64

388

Symbol index

$\mathcal{L}_{\partial,n}(\Pi^d)$	170	σ_{d-1}	36
$\mathcal{L}_{\partial}(\Pi^d)$	170	ϱ_m	305
\mathcal{M}	72	λ	305
N_0	30	ξ_i	297
$N_0^{d,P}$	288	ζ_α	298
P_n^n	65	${}_2F_1$	3
\mathcal{P}_n^d	31	$a_R(x)$	140
$P_n(f; x)$	105	a_λ	303
$P_n(x, y)$	105	$\text{ad}(S)$	170
Π^W	148	c_h	184
Π^d	31	c'_h	184
Π_p^d	31	$h(\lambda, t)$	309
T^d	313	$h^*(\lambda)$	321
T_i	324	$h_*(\lambda)$	321
\mathcal{U}_i	291	h_κ	175
\mathcal{V}_n^d	32	j_λ	303
Ξ_C	96	$p(\mathcal{D})$	169
α^R	289	$p_\alpha(x)$	293
α^j	39	$q_\kappa(w; s)$	160
α^+	288	$q_i(w; s)$	160
$\binom{\alpha}{\beta}_\kappa$	350	r_n^d	31
$d\omega$	36	w_κ^T	46
γ_κ	175	w^B	38
$\Lambda_n(x)$	109	$x^{\underline{k}}$	30
σ_u	138		

Subject index

- adjoint map, 170
- adjoint operator
 - of \mathcal{D}_i on R^d , 184
 - of \mathcal{D}_i on S^{d-1} , 182
- alternating polynomial, 140
- Appell's polynomials, 40

- Bessel function, 219
- beta function, 1
- biorthogonal, 33, 111
 - polynomials on B^d , 43
 - polynomials on T^d , 49
- block Jacobi matrices, 89
 - truncated, 114

- Calogero-Sutherland Systems, 360
- Cauchy kernel, 214
- Cesàro means, 259
- chambers, 142
 - fundamental, 142
- Chebyshev polynomials, 20
- Christoffel function, 109
- Christoffel-Darboux formula
 - one variable, 10
 - several variables, 107
- Chu-Vandermonde sum, 4
- common zeros, 113
- complete integrability, 361
- completely monotone function, 281
- composition, 288
- Coxeter group, 140, 141
- cubature formula, 117, 135
 - Gaussian, 119
 - positive, 118

- dihedral group, 144, 205
- disc polynomials, 57
- dominance order, 288
- Dunkl operator, 137, 152, 240
 - for abelian group \mathbb{Z}_2^d , 197
 - for dihedral groups, 206

- Favard's theorem, 79, 93
- finite reflection group, 141
 - irreducible, 142
- Fourier orthogonal series, 105, 110
- Fourier transform, 216
- Funk-Hecke formula
 - for polynomials on B^d , 233
- Funk-Hecke formula
 - for h -harmonics, 191
 - for ordinary harmonics, 37

- gamma function, 1
- Gaussian quadrature, 93
- Gegenbauer polynomials, 17
 - generalized binomial coefficients, 350
 - generalized Fourier transform, 216
 - generalized Gegenbauer polynomials, 26
 - generalized Hermite polynomials, 25
 - generalized Pochhammer symbol, 308

- harmonic oscillator, 361
- harmonic polynomials, 34
- h -harmonics, 175
 - projection operator, 181
 - space of, 177
- h -Laplacian, 156
- Hermite polynomials, 14
 - Cartesian, 244
 - spherical-polar, 244
- homogeneous polynomials, 31
- hook length product, 309
 - lower, 321
 - upper, 321
- hypergeometric function, 3
 - Gegenbauer polynomials, 17, 18
 - Jacobi polynomials, 21
- hyperoctahedral group, 143
- hypersurface, 119

- inner product
 biorthogonal type, 311
 permissible, 290
 torus, 313
 intertwining operator, 157
 invariant polynomials, 148
- Jack polynomials, 304, 325
 Jacobi polynomials, 21
 on the disc, 56, 88
 on the square, 56, 85
 on the triangle, 56, 86
 joint matrix, 76
- κ -Bessel function, 168
 κ -closed 1-form, 162
 κ -exact, 162
- Laguerre polynomials, 15
 Laplace operator, 34
 Laplace series, 131, 262
 Lauricella functions, 5
 leading coefficient, 66
 Legendre polynomials, 20
 length function, 147
- moment, 72
 Hamburger's theorem, 73
 matrix, 64
 moment functional, 64
 positive definite, 67
 quasi-definite, 79
 moment problem, 72
 determinate, 72
 moment sequences, 72
 monomial, 33
 orthogonal basis, 33
 orthogonal polynomials, 69
 on ball, 41
 on simplex, 47
 multi-index notation, 30
 multiple Hermite polynomials, 49
 multiple Jacobi polynomials, 37
 multiple Laguerre polynomials, 51
 multiplicity function, 152
- nonsymmetric Jack polynomials, 298, 323
 nonsymmetric Jack-Hermite polynomials, 334
- order
 dominance, 288
 graded lexicographic, 32
 lexicographic, 32
 total, 32
 orthogonal group, 137
- orthonormal, 33, 68
- parabolic subgroup, 146
 partition, 288
 Pochhammer symbol, 2
 Poincaré series, 148
 Poisson kernel, 190
 positive roots, 139
- reproducing kernel, 106
 associated with \mathbb{Z}_2^d , 202
 h -spherical harmonics, 190
 on the ball, 131, 232, 233
 on the simplex, 242, 243
 on the sphere, 131
- root system, 139
 indecomposable, 142
 irreducible, 142
 rank of, 141
 reduced, 139
- Saalschütz formula, 5
 Selberg-Macdonald integral, 347
 simple roots, 142
 special orthogonal group, 137
 spherical coordinates, 35
 spherical harmonics, 33
 structure constant, 9
 summability of orthogonal expansion
 for Hermite polynomials, 274
 for Jacobi polynomials, 279
 for Laguerre polynomials, 274
 on the ball, 266
 on the simplex, 271
 on the sphere, 262
- surface area, 36
 symmetric group, 142
- three term relation, 75
 commutativity conditions, 89
 for OP on the disc, 88
 for OP on the square, 85
 for OP on the triangle, 86
 rank conditions, 77
- torus, 313
 total degree, 30
- Van der Corput-Schaake inequality, 58
- weight function
 admissible, 132
 centrally symmetric, 82
 quasi-centrally symmetric, 84
 S -symmetric, 127
- Young tableau, 309