

Index

- Aigner, M., 25
 Aitchison, J., 151
 Alexander, K.R., 4
 algebra, 46
 analysis of variance, 9, 129, 130, 131, 133, 160, 174
 Andersson, S., 71, 160, 194
 angular variation, 195
 astigmatism, 181
- Bacry, H., 17, 32, 161
 Bailey, R.A., 160
 bilateral symmetries, 141
 binary sequences, 161
 Bose, S., 17
 Bose-Einstein statistic, 18
 Burnside, W., 58, 61, 70
- Campbell, C., 192
 canonical space, 191, 204
 Cartan, E., 42, 45, 155, 194
 Cartier, P., 25
 centralizer, 190
 character, 91
 $C_2 \times C_2$, 97
 C_4 , 92
 C_n , 99
 D_4 , 108
 D_n , 97
 K_4 , 127
 S_3 , 93
 S_4 , 96
 circularly polarized light, 201
 class function, 98
 classes of transitivity, 167
 coherency matrix, 190
 coinvariants, 143
 compensators, 191
 conjugacy class, 99
 corneal curvature, 181
 corneal topography, 181
 cross section, 184
 cycles, 31
 cyclic orbits, 145
- data structures, 129
 Dawid, A.P., 160
- Devroye, L., 152
 Di Bucchianico, A., 121, 160
 Diaconis, P., 11, 84, 88, 160, 194
 dihedral, 201, 203, 205
 dihedral correlation indexing, 206
 dihedral Fourier analysis, 190, 193
 dihedral Fourier coefficients, 197
 dihedral Fourier invariants, 214
 dihedral frequencies, 174
 dihedral indexing, 206
 dihedral mappings, 211
 divergence index, 215
 DNA frequencies, 171
 DNA sequence, 152
 Doi, H., 25, 144, 165
 dual space, 139
 Dudoit, S., 25, 58
- Eaton, M.L., 160, 164, 184
 enantiomeric motion, 203
 entropy, 4, 20, 148, 150
 Evans, S., 25
 eye movement studies, 157
- factorial design, 132
 Farrell, E., 160
 Farrell, R.H., 160
 Fermi, E., 17
 Fermi-Dirac statistic, 18
 Fisher, R.A., 59, 69, 160
 fixed points, 178
 Fourier
 series, 77
 transform, 118, 121
 frames of reference, 140
- Gao, Y., 71, 195
 geological composition, 151
 group
 D_4 , 58
 action, 47
 automorphism, 36
 circle, 36
 commutative, 35
 isomorphism, 35
 isotropy, 48

- group (*cont.*)
 Klein, 25, 127
 Lie, 157
 Lorentz, 45, 70
 order, 35
 orthogonal, 44
 permutation, 12
 Poincaré, 45
 symmetric, 12
 symplectic, 44
 unitary, 44
 Gupta, S., 160
- Hamiltonian, 194
 Hannan, E.J., 69, 160
 Helland, I., 160
 Hoffman, W., 195
 Huygens, C., 201
- identity by descent, 57
 incidence matrix, 61
 integer partitions, 16
 intraclass covariance, 142
 intraocular pressure, 142
 invariance, 6, 9, 10, 15, 17, 20, 21, 25, 26, 55, 67, 69,
 79, 102, 106, 123, 129, 135
 invariant
 inner product, 67
 invariant plots, 149
 invariant probability laws, 184
 invariants, 129, 134, 138, 140, 153
 irreducible character, 93
- Jaeger, F.M., 24
 James, A., 160
 James, G., 88
- keratometry, 181
 Kullback, S., 148, 154, 215
- Lakshminarayanan, V., 157, 194, 195, 213
 Lam, T., 87, 88
 Laplace equation, 158
 latin squares, 132
 Ledermann, W., 160
 Leggett, A.J., 25
 Lie derivative, 157
 linear
 linear optics, 157
 linear ranks, 195
 linear superpositions, 204
- Madsen, J., 160
 Mallesh, K.S., 90
 Mann, H.B., 160
 Marden, J., 71, 195
 Marshall, A.W., 61
 Maxwell-Boltzmann statistic, 18
 McCullagh, P., 153
 Mekerjee, R., 160
 molecule
 of ammonia, 155
 of dichloroethene, 66
 monochromatic plane wave, 194
- Muirhead, R., 160
 multinomial distribution, 158
 multivariate normal distribution, 159
- Nachbin, L., 160
 Nairmark, M.A., 71
 normal subgroup, 47
 nucleotide sequences, 145
- O'Neill, E., 141
 Olkin, I., 61, 117, 194
 Omnes, R., 22
 optical activity, 201
 orbit, 47
 cyclic, 50
 dihedral, 51, 136
 order statistics, 116
 oriented systems, 203
- Pólya, G., 1, 24
 Papakostas, A., 213
 Pasteur, L., 201
 Patcher, L., 175
 Pauli matrices, 190, 191, 204
 Perlman, M., 195
 permutation representation, 63, 65, 74, 82, 101, 112,
 115, 142, 195
 permutation symmetry, 12
 permutation
 parity, 32
 Petitjean, M., 213
 phase
 phase correlations, 192
 phase space, 196
 Pistone, G., 163
 planar
 planar images, 201
 planar rotations, 140
 point group D_{2h} , 154, 162
 polarizer, 157, 193
 porosity levels, 152
 Press, S.J., 194
 primitive idempotents, 79
 Prosvirnin, S.L., 213
- quadratic forms, 128
 quaternions, 45
- random permutations, 182
 ranking permutations, 182
 Rao, C.R., 160
 relativity, 17
 representation
 alternating square, 74
 character of, 91
 irreducible, 75
 irreducible of dimension $(n - 1)$,
 113
 regular, 65, 95
 symmetric square, 74
 tensor, 69
 reversals, 134
 Ricahrd, D., 160
 Riccomagno, E., 163

Index

235

- Riley, K.F., 16, 22, 78
 Rosen, J., 24
 rotations, 134
 Ruhla, C., 21
- Sarton, G., 24
 Savage, L.J., 163
 Searle, S.R., 160
 semidirect product, 40, 60
 semilinear, 92
 Serre, J-P., 30
 signal-to-noise ratio, 145
 Silverman, M.P., 191,
 194
 Simon, B., 71
 Sloan, L.L., 3, 150
 Speed, T.P., 25, 58
 stabilizers, 48, 175, 178
 standard decomposition, 112
 Štern, A.I., 71
 Sternberg, S., 25
 Stokes parameters, 190
 Streater, R.F., 191
 Sturmfels, B., 175
 subgroup, 35
- symmetric polynomials, 157
 Symmetry Principle, 24
- thermodynamics, 19
 transitive action, 48
- Van de Ven, P., 121, 160
 van der Waerden, H., 24
 Varadharajan, S., 158
 visual acuity, 142
 von Mises, R., 17
 von Neumann, J., 163
 Votaw, D.F., 194
 voting preferences, 137
- Weyl, H., 7, 23, 24
 Wheatstone bridge, 26
 Wightman, A.S., 191
 Wigner, E., 24
 Wijsman, R.A., 160
 Wilks, S.S., 194
 Wit, E., 153
 Wynn, H., 163
- Young tableaux, 33, 82