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Freedman, D. An empirical form of the square root law and the central limit theorem. $\mathbf{8 0}$ (1976) 287-295

Fremlin, D. H. Inextensible Riesz spaces. 77 (1975) 71-89
Topological measure spaces: two counter-examples. 78 (1975) 95-106
Friedlander, F. G. The wave front set of the solution of a simple initial-boundary value problem with glancing rays. 79 (1976) 145-159
Friedman, H. Adding propositional connectives to countable infinitary logic. 77 (1975) 1-6
Frönlich, A. Module invariants and root numbers for quaternion fields of degree $4 l^{r} .76$ (1974) 393-399

Resolvents and trace form. 78 (1975) 185-210
Gajraj, J. \& Baker, R. C. On the fractional parts of certain additive forms. 79 (1976) 463-467
Galambos, J. A remark on the asymptotic theory of sums with random size. 79 (1976) 531-532
Galanis, E. Separating functions for $V$-Sidon sets. 71 (1972) 39-42
Galewski, D. On groups and 3-manifolds with weak dimension $\leqslant 1$. 75 (1974) 33-35
Gardner, R. J. Approximating sequences and Hausdorff measure. 76 (1974) 161-172
Garling, D. J. H. Another proof that the inclusion $I: l^{1} \rightarrow l^{2}$ is 0-radonifying. 71 (1972)61-62
Garling, D. J. H. \& Wilansky, A. On a summability theorem of Bere, Crawford and Whitley. 71 (1972) 495-497
Garling, D. J. H. A 'short' proof of the Riesz representation theorem. 73 (1973) 459-460
Operators with large trace, and a characterization of $l_{n}^{\infty}$. 76 (1974) 413-414
Lattice bounding, Radonifying and summing mappings. 77 (1975) 327-333
Gate, M. \& Whiston, G. S. 'Line-cobordism'. 75 (1974) 345-349
Gehring, F. W. Lower dimensional absolute continuity properties of quasiconformal mappings 78 (1975) 81-93
Gibson, C. G. Regularity of the Segre stratification. 80 (1976) 91-97
Gilbert, A. D. Examination of Whitham's exact averaged variational principle. 76 (1974) 327-344
Gillis, J. \& Even, S. Derangements and Laguerre polynomials. 79 (1976) 135-143.
Gitler, S. \& Feder, S. Stable homotopy types of stunted complex projective spaces. 73 (1973) 431-438

Glen, Maureen, Sykes, M. F. \& Rehr, J. J. A note on the percolation probabilities of pairs of closely similar lattices. 76 (1974) 389-392

Godwin, A. N. Topological bifurcation for the double cusp polynomial. 77 (1975) 293-312
Goldie, A. Azumaya algebras and rings with polynomial identity. 79 (1976) 393-399. Addendum. 80 (1976) 383-384
Good, I. J. A new formula for cumulants. 78 (1975) 333-337
Goodey, P. R. Hausdorff measure functions, 74 (1973) 87-96
Goodman, G. S. \& Johansen, S. Kolmogorov's differential equations for non-stationary, countable state Markov processes with uniformly continuous transition probabilities. 73 (1973) 119-138
Gordon, C. McA. Embedding piecewise linear manifolds with boundary. 72 (1972) 21-25
Gordon, M. \& Tutte, W. T. On sums of determinants of intersection matrices of Petrie matrices. 75 (1974) 155-163
Graddon, C. J. \& Hartley, B. Basis normalizers and Carter subgroups in a class of locally finite groups. 71 (1972) 189-198
Graham, C. C. Measures vanishing off the symmetric maximal ideals of $M(G)$. 75 (1974) 51-61
Grams, Anne. Atomic rings and the ascending chain condition for principal ideals. 75 (1974) 321-329
Grande, Z. On measurability of functions of two variables. 77 (1975) 335-336
Green, M. D. Maximal one-sided ideals in Banach algebras. 80 (1976) 109-111
Gregory, R. D. The non-existence of standing modes in certain problems of linear elasticity. 77 (1975) 385-404
Grey, D. R. Two necessary conditions for embeddability of a Galton-Watson branching process. 78 (1975) 339-343
Griffiths, H. B. The case of the jumping critical point. 80 (1976) 511-520
Griffiths, J. B. On the superposition of gravitational waves. 77 (1975) 559-565
Grimmett, G. R. \& McDiarmid, C. J. H. On colouring random graphs. 77 (1975) 313-324
Grimshaw, R. Weakly non-linear, slowly-varying waves and their instabilities. 72 (1972) 95-104
Guay, M. D. The graph-theoretic analogue of Tietze's characterization of a convex set and its generalization. 72 (1972) 7-9
Gupta, H. On $m$-ary partitions. 71 (1972) 343-345
Hacon, D. Iterated torus knots. 80 (1976) 57-60
Hajnal, J. On products of non-negative matrices. 79 (1976) 521-530
Hall, I. M. \& Samuel, T. D. M. A. On the series solution to the laminar boundary layer with stationary origin on a continuous, moving porous surface. 73 (1973) 223-229
Hall, M., Jr. Semi-automorphisms of Hadamard matrices. 77 (1975) 459-473
Hall, R. R., Anderson, N. \& Arthurs, A. M. Extremum principle for a nonlinear problem in magneto-elesticity. 72 (1972) 315-318
Hall, R. R. On a conjecture of Littlewood. 78 (1975) 443-445
Hall, R. R. \& Erdös, P. Proof of a conjecture about the distribution of divisors of integers in residue classes. 79 (1976) 281-287
Harary, F. \& Thomassen, C. Anticritical graphs. 79 (1976) 11-18
Hardiman, S. T. \& Tsokos, C. P. On the Uryson type of stochastic integral equations. 76 (1974) 297-305

Harris, L. A. The numerical range of functions and best approximation. 76 (1974) 133-141
Harrison, Jenny. Structure of a foliated neighbourhood. 79 (1976) 101-110
Harrop, R. On simple, weak and strong models of propositional calculi. 74 (1973) 1-9
Hartley, B. \& Graddon, C. J. Basis normalizers and Carter subgroups in a class of locally finite groups. 71 (1972) 189-198
Hartley, B. Serial subgroups of locally finite groups. 71 (1972) 199-201
A note on the normalizer condition. 74 (1973) 11-15
Groups of automorphisms of Abelian $\mathfrak{F}_{1}$-groups. 77 (1975) 241-245
Hartley, B. \& Tomkinson, M. J. Splitting over nilpotent and hypercentral residuals. 78 (1975) 215-226

Hasler, M. On a quantum mechanical model for a maser. I. 79 (1976) 351-371
Hawkes, J. On the comparison of measure functions. 78 (1975) 483-491

Hawkes, T. O. A Fitting class construction. 80 (1976) 437-446
Haydon, R. Some more characterizations of Banach spaces containing $l_{1}$. 80 (1976) 269-276
Hayes, A. Uniformities with totally ordered bases have paracompact topologies. 74 (1973) 67-68
Hayman, W. K. \& Weitsman, A. On the coefficients and means of functions omitting values. 77 (1975) 119-137
Heading, J. Analytical considerations of barrier transmission. 71 (1972) 353-367
Exact and approximate methods for the investigation of the propagation of waves through a system of barriers. 74 (1973) 161-178
The Stokes phenomenon and generalized contiguous transformations of some generalized hypergeometric functions. 76 (1974) 423-442
Further transformable $n$th order differential equations with transition points of particular order $m .77$ (1975) 145-157
Invariant properties of wave propagation in $n$-dimensional space. 79 (1976) 563-571
Heil, W. On Kneser's conjecture for bounded 3-manifolds. 71 (1972) 243-246
Heselden, G. P. M. A convolution involving Bell polynomials. 74 (1973) 97-106
Hewitt, E. \& Brown, G. Continuous singular measures equivalent to their convolution squares. 80 (1976) 249-268
Hicein, K. K. \& Phillifs, R. E. Local theorems and group extensions. 73 (1973) 7-20
Higgins, P. J., Morris, S. A. \& Brown, R. Countable products and sums of lines and circles: their closed subgroups, quotients and duality properties. 78 (1975) 19-32
Hill, R. On the elasticity and stability of perfect crystals at finite strain. 77 (1975) 225-240
Hilton, P. \& Deleanu, A. Borsuk shape and a generalization of Grothendieck's definition of pro-category. 79 (1976) 473-482
Hilton, P. \& Stammbach, U. On group actions on groups and associated series. 80 (1976) 43-55
Hinton, D. B. \& Lewis, R. T. Discrete spectra criteria for singular differential operators with middle terms. 77 (1975) 337-347
Hirschhorn, M. D. \& Loxton, J. H. Congruence properties of the binary partition function. 78 (1975) 437-442
Hoare, A. H. M. \& Macbeath, A. M. Groups of hyperbolic crystallography. 79 (1976) 235-249
Hodges, W. Läuchli's algebraic closure of $Q .79$ (1976) 289-297
Hodgson, J. P. E. Diffeomorphisms of some smooth metastably connected manifolds. 71 (1972) 19-23

Hoffman, P. \& Adams, J. F. Operations on $K$-theory of torsion-free spaces. 79 (1976) 483-491
Hogan, P. A. Classical electrodynamics: the equation of motion. 76 (1974) 359-367
Horgan, C. O. A note on a class of integral inequalities. 74 (1973) 127-131
Horndeski, G. W. Dimensionally dependent divergences. 72 (1972) 77-82
Hudson, J. F. P. Embeddings of bounded manifolds. 72 (1972) 11-20
Hulse, J. A. Automorphism towers of certain almost soluble groups. 74 (1973) 397-420
Humphreys, J.F. On groups satisfying the converse of Lagrange's theorem. 75 (1974) 25-32
Ilamed, Y. Generalized Cayley-Hamilton identities for matrices with entries in anassociative ring. 73 (1973) 21-23
Isham, Valerie, Shanbhag, D. N. \& Westcott, M. A characterization of the Poisson process using forward recurrence times. 78 (1975) 513-516
IsLAM, J. N. A class of approximate exterior rotating solutions of Einstein's equations. 79 (1976) 161-166

Jackson, D. M. Laguerre polynomials and derangements. 80 (1976) 213-214
Jackson, T. H., Williamson, J. H. \& Woodall, D. R. Difference-covers that are not $k$-sumcovers. I. 72 (1972) 425-438
Jakimovski, A. \& Tzimbalario, J. Inclusion relations for Riesz typical means. 72 (1972) 417-424
Jameson, G. J. O. Convex series. 72 (1972) 37-47
Jayne, J. E. Continuous images of proper analytic and proper Borel spaces. 75 (1974) 185-191

Jeffreys, H. \& Singh, K. Symmetrical treatment of a case of normal correlation. 71 (1972) 107-109
Jeffreys, H. On isotropic tensors. 73 (1973) 173-176
JHa, R. Diffraction of impulsive elastic waves by a fluid cylinder. 75 (1974) 391-404
Johansen, S. \& Goodman, G. S. Kolmogorov's differential equations for non-stationary, countable state Markov processes with uniformly continuous transition probabilities. 73 (1973) 119-138
Johnson, F. E. A. Manifolds of homotopy type $K(\pi, 1)$ II. 75 (1974) 165-173
Johnson, J. A. A source-sink flow in a rotating fluid. 75 (1974) 269-282
Johnson, J. A., Creegan, Atleen \& Dyke, P. P. G. A singularity in an oceanic boundary layer. 77 (1975) 439-446
Johnson, R. S. On the development of a solitary wave moving over an uneven bottom. 73 (1973) 183-203

Johnstone, Eveline A. \& Mackie, A. G. The use of Lagrangian coordinates in the water entry and related problems. 74 (1973) 529-538
Jones, D. S. \& Morgan, J. D. The instability of a vortex sheet on a subsonic stream under acoustic radiation. 72 (1972) 465-488
Jones, D. S. The reflexion of an acoustic puise by a piane vortex sheet. 74 (1973) 349-364
Jones, I. P. Low Reynolds number flow past a porous spherical shell. 73 (1973) 231-238
Jones, J. R. A further note on axially symmetric flows of elastico-viscous liquids. 73 (1973) 239-247
Joserf, A. A characterization theorem for realizations of $s l(2) .75$ (1974) 119-131
A wild automorphism of Usl(2). 80 (1976) 61-65
Judd, B. R. Modifications of Coulombic interactions by polarizable atoms. 80 (1976) 535-539
Jukes, K. A. On the converse of Mertens' theorem. 73 (1973) 467-471
Jupp, P. E. Classification of certain 6-manifolds. 73 (1973) 293-300
Kalton, N. J. On summability domains. 73 (1973) 327-338
Mackey duals and almost shrinking bases. 74 (1973) 73-81
Differential games with optional stopping. 76 (1974) 263-284
Kalton, N. J. \& WOOd, G. V. Orthonormal systems in Banach spaces and their applications. 79 (1976) 493-510
Karwowski, W. On Borchers class of Markoff fields. 76 (1974) 457-463
Keady, G. The jet from a horizontal slot at large Froude number. 73 (1973) 515-529
Keady, G. \& Pritchard, W. G. Bounds for surface solitary waves. 76 (1974) 345-358
Kelly, F. P. Stochastic models with electrical analogues. 80 (1976) 145-151
The departure process from a queueing system. 80 (1976) 283-285
Keogh, F. R. \& Essén, M. The Schwarzian derivative and estimates of functions analytic in the unit disc. 78 (1975) 501-511
Khassa, D. S. \& Dumir, V. C. Saturated systems of symmetric convex domains; results of Eggleston, Bambah and Woods. 74 (1973) 107-116
A conjecture of Fejes Tóth on saturated systems of circles. 74 (1973) 453-460
King, G. M. The anisotropic harmonic oscillator group. 75 (1974) 235-248
Kingman, J. F. C. Geometrical aspects of the theory of non-homogeneous Markov chains. 77 (1975) 171-183
Knast, R. An approximate theorem for Borsuk's conjecture. 75 (1974) 75-76
Knight, C. J., Moran, W. \& Pym, J. S. The topologies of separate continuity. II. 71 (1972) 307-319
Knowles, R.J. \& Cook, T. A. Incomplete reflexive spaces without Schauder bases. 74 (1973) 83-86
Köllerström, J. Stochastic bounds for the single-server queue. 80 (1976) 521-525
Körner, T. W. The union of sets of interpolation for general algebras. 73 (1973) 67
Kozma, I. Generators for $\mathrm{II}_{*}(M U)$. 78 (1975) 321-322
Krishnan, V. K. Gap Tauberian theorem for generalized Abel summability. 78 (1975) 497-500
Kumar, A. \& Dikshit, H. P. Absolute total-effectiveness of ( $N, p_{n}$ ) means. T. 77 (1975) 103-108
Kunen, K. Some points in $\beta N .80$ (1976) 385-398

Kurtz, J. C. \& Sledd, W. T. Uniform summability of power series. 71 (1972) 335-341
Kurtz, J. C. Multipliers on some sequence spaces. 72 (1972) 393-402
Uniform summability and Töplitz bases. 73 (1973) 73-81
Kuttner, B. On dual summability methods. 71 (1972) 67-73
On Riemann summability of functions. 75 (1974) 83-94
Some theorems on strong regularity of Nörlund methods. 76 (1974) 195-209
Cesàro iterations of Hausdorff matrices. 77 (1975) 109-118
Kwee, B. On a summation method of S. Verblunsky. 71 (1972) 499-503
Laffey, T. J. Solubility theorems for finite groups. 73 (1973) 1-6
A lemma on finite $p$-groups and some consequences. 75 (1974) 133-137
The number of solutions of $x^{p}=1$ in a finite group. 80 (1976) 229-231
LaNGe, H. Moduli spaces of algebraic curves with rational maps. 78 (1975) 283-292
Larman, D. G. \& McMullen, P. Arcs with increasing chords. 72 (1972) 205-208
Larman, D. G. \& Mani, P. Almost ellipsoidal sections and projections of convex bodies. 77 (1975) 529-546

Lascu, A. T., Mumford, D. \& Scott, D. B. The self-intersection formula and the 'formule clef'. 78 (1975) 117-123
Laver, R. Well-quasi-orderings and sets of finite sequences. 79 (1976) 1-10
Lekner, J. Ground state of a system of many Bose particles. 71 (1972) 575-579
On the three-body problem. 73 (1973) 177-182
Lennox, J. C. A note on orthogonality and permutability of subnormal subgroups. 72 (1972) 351-356
A note on a centrality property of finitely generated soluble groups. 75 (1974) 23-24
Levine, L. E. Entropy and simple waves in multidimensional gas flow. 72 (1972) 299-302
Lewis, R. T. \& Hinton, D. B. Discrete spectra criteria for singular differential operators with middle terms. 77 (1975) 337-347
Lick, D. R. \& White, A. T. Chromatic-durable graphs. 71 (1972) 227-233
Lickorish, W. B. R. Three-manifolds as branched covers. 74 (1973) 449-451
Lillington, J. N. Completely stretched sets. 75 (1974) 37-43
A conjecture for polytopes 76 (1974) 407-411
Some extremal properties of convex sets. 77 (1975) 515-524
Lindsay, K. A. An application of a global entropy inequality to mixtures. 74 (1973) 185-197
Liv, M. C. Simultaneous approximation of two additive forms. 75 (1974) 77-82
Lloyd, N. G. On the non-autonomous van der Pol equation with large parameter. 72 (1972) 213-228
Longuet-Higains, M. S. On a conjectured analogue to Clifford's chain in [4]. 73 (1973) 37-43
Love, E. R. \& Clements, D. L. Potential problems involving an annulus. 76 (1974) 313-325
Lowe, P. G. \& Melchers, R. E. Some geometry of constant curvature surfaces. 76 (1974) 601-605
Loxton, J. H. \& Hirschhorn, M. D. Congruence properties of the binary partition function. 78 (1975) 437-442
Ludford, G. S. S., Walker, J. S. \& Cook, L. P. Corner regions in the asymptotic solution of $\epsilon \nabla^{2} u=\partial u / \partial y$ with reference to MHD duct flow. 72 (1972) 117-122
Lutwak, E. General Bieberbach inequalities. 78 (1975) 493-495
Macbeath, A. M. \& Hoare, A. H. M. Groups of hyperbolic crystallography. 79 (1976) 235-249
MoCallion, T. Compactifications of ordered topological spaces. 71 (1972) 463-473
McDiarmid, C. J. H. \& Grimmett, G. R. On colouring random graphs. 77 (1975) 313-324
McDiarmid, C. J. H. Rado's theorem for polymatroids. 78 (1975) 263-281
McGettrick, A. D. On the biquadratic Gauss sum. 71 (1972) 79-83
McGinley, W. G. \& Sibson, R. Dissociated random variables. 77 (1975) 185-188
McKee, W. D. Internal-inertia waves in a fluid of variable depth. 73 (1973) 205-213
Waves on a shearing current: a uniformly valid asymptotic solution. 75 (1974) 295301
A two turning-point problem in fluid mechanics. 77 (1975) 581-590
McMullen, P. \& Larman, D. G. Ares with increasing chords. 72 (1972) 205-208

McMullen, P. Non-linear angle-sum relations for polyhedral cones and polytopes. 78 (1975) 247-261
McSherry, D. M. G. A general theory of separation, regularity, and connectedness properties. 80 (1976) 81-90
Mackie, A. G. \& Johnstone, Eveline A. The use of Lagrangian coordinates in the water entry and related problems. 74 (1973) 529-538
Maddox, I. J. Operators on the generalized entire sequences. 71 (1972) 491-494
Mahler, K . On the digits of the multiples of an irrational $p$-adic number. 76 (1974) 417-422
Mal, A. K. \& Bose, S. K. Dynamic elastic moduli of a suspension of imperfectly bonded spheres. 76 (1974) 587-600
Mallows, C. L. \& Sloane, N. J. A. On the invariants of a linear group of order 336. 74 (1973), 435-440
Mani, P. \& Larman, D. G. Almost ellipsoidal sections and projections of convex bodies. 77 (1975) 529-546

Mania, A. \& Cattaneo, G. Abstract orthogonality and orthocomplementation. 76 (1974) 115-132
Margolis, H. R. \& Adams, J. F. Sub-Hopf-algebras of the Steenrod algebra. 76 (1974) 45-52
Martens, E. Strictly singular and cosingular operators. 79 (1976) 111-115
Martin, J. Integrals with a large parameter and several nearly coincident saddle points; the continuation of uniformly asymptotic expansions. 76 (1974) 211-231
Martin, N. Cobordism of homology manifolds. 71 (1972) 247-270
Transverse regularity for maps of homology manifolds. 74 (1973) 29-38
Mason, D. R. Finite simple groups with Sylow 2 -subgroups of type $\operatorname{PSL}(5, q), q$ odd. 79 (1976) 251-269
Masser, D. W. On the periods of the exponential and elliptic functions. 73 (1973) 339-350
Linear forms in algebraic points of Abelian functions. I. 77 (1975) 499-513
Linear forms in algebraic points of Abelian functions. II. 79 (1976) 55-70
Mathon, D. Infinitely divisible projective representations of Lie algebras. 72 (1972) 357-368
Mauldon, J. G. Extreme points of convex sets of doubly stochastic matrices. II. 78 (1975) 327-331
Mayer, K. H. \& Schwarzenberger, R. L. E. Lefschetz formulae for modest vector bundles. 73 (1973) 439-453
Mayer, K. H. Free $S^{1}$-actions and involutions on homotopy seven spheres. 73 (1973) 455458
Mayer, S. J. On the characters of the Weyl group of type D. 77 (1975) 259-264
Melchers, R. E. \& Lowe, P. G. Some geometry of constant curvature surfaces. 76 (1974) 601-605
Meldrum, J. D. P. Correction to a paper on wreath products. 76 (1974) 21
Melrose, R. B. \& Pemberton, M. Periodic solutions of certain nonlinear autonomous wave equations. 78 (1975) 137-143
Milner, E. C., Rado, R. \& Erdös, P. Families of sets whose pairwise intersections have prescribed cardinals or order types. 80 (1976) 215-221
Minassian, D. P. On Teh's construction of orders in Abelian groups. 71 (1972) 433-436
Mitra, S. K. Common solutions to a pair of linear matrix equations $A_{1} X B_{1}=C_{1}$ and $A_{2} X B_{2}=C_{2} . \quad 74$ (1973) 213-216
Moffat, J. Continuity of automorphic representations. 74 (1973) 461-465
Moran, P. A. P. Maximum likelihood estimators with known incidental parameters. 72 (1972) 233-242

Global stability of genetic systems governed by mutation and selection. 80 (1976) 331336
Moran, W., Pym, J. S. \& Knight, C. J. The topologies of separate continuity. II. 71 (1972) 307-319
Moran, W., Bailey, W. J. \& Brown, G. Spectra of independent power measures. 72 (1972) 27-35
Moran, W. \& Brown, G. A dichotomy for infinite convolutions of discrete measures. 73 (1973) 307-316

Moran, W. \& Brown, G. On orthogonality of Riesz products. 76 (1974) 173-181
Coin tossing and powers of singular measures. 77 (1975) 349-364
Gleason parts for measure algebras. 79 (1976) 321-327
Mordell, L. J. A finite evaluation of a special exponential sum. 71 (1972) 75-78
Morgan, J. D. \& Jones, D. S. The instability of a vortex sheet on a subsonic stream under acoustic radiation. 72 (1972) 465-488
Morris, Clare A. N. The generation of surface waves over a sloping beach by an oscillating line-source. I. The general solution. 76 (1974) 545-554
The generation of surface waves over a sloping beach by an oscillating line-source. II. The existence of wave-free source positions. 76 (1974) 555-562

The generation of surface waves over a sloping beach by an oscillating line source. III. The three-dimensional problem and the generation of edge waves. 79 (1976) 573-585

Morris, R. M. \& Price, W. G. Extension of the Curie principle and constitutive relations for fluids with antisymmetric stress. 72 (1972) 243-252
Morris, S. A., Brown, R. \& Higgins, P. J. Countable products and sums of lines and circles: their closed subgroups, quotients and duality properties. 78 (1975) 19-32
Moskowitz, M. On pro-reductive groups. 76 (1974) 401-406
Müller zum Hagen, H. A new physical characterization of stationary and static spacetimes. 71 (1972) 381-389
The static two body problem. 75 (1974) 249-260
Mumford, D., Scott, D. B. \& Lascu, A. T. The self-intersection formula and the 'formuleclef'. 78 (1975) 117-123
Murphy, T. On the tensor system of a semisimple Lie algebra. 71 (1972) 211-226
Murray, N. W. The polygon-circle paradox and convergence in thin plate theory. 73 (1973) 279-282
Muzio, J. C. Some large classes of $n$-valued Sheffer functions. 74 (1973) 201-211
Nakai, M. \& Sario, L. Harmonic functions on a Riemannian ball. 80 (1976) 277-282
Nanda, S. A geometrical proof that causality implies the Lorentz group. 79 (1976) 533-536
NASH, G. F. The calculation of diagonal matrix elements of two-body relative state operators between many-body oscillator states. 72 (1972) 451-456
The calculation of matrix elements of three-particle operators in $\alpha$-particle nuclei. 72 (1972) 457-458

Nath, G. B. An inequality for Mill's ratio for the type III population. 73 (1973) 351-353
Naylor, D. On an integral transform associated with a condition of radiation. 71 (1972) 369-379
Naylor, D., Choo, F. C. \& Barclay, D. W. On an eigenfunction expansion associated with a condition of radiation. II. 74 (1973) 485-496
Naylor, D. On an integral transform associated with a condition of radiation, part 2. 77 (1975) 189-197

Neal, D. G. Estimates of critical percolation probabilities for a set of two-dimensional lattices. 71 (1972) 97-106
Neudecker, W. On twin 'primes' and gaps between successive 'primes' for the Hawkins random sieve. 77 (1975) 365-367
Newby, J. C. High frequency diffraction by a soft circular disc. I. The plane wave at normal incidence. 71 (1972) 527-543
High frequency diffraction by a soft circular disc. II. The plane wave at oblique incidence. 71 (1972) 545-565
Na, K.-F. An open mapping theorem. 74 (1973) 61-66
Norbury, J. A steady vortex ring close to Hill's spherical vortex. 72 (1972) 253-284
Obi, C. Analytical theory of non-linear oscillations. I. An existence theorem for periodic oscillations of equations of the second order. 76 (1974) 285-296
Odoni, R. W. K. The statistics of Weil's trigonometric sums. 74 (1973) 467-471
Ogden, R. W. On stress rates in solid mechanics with application to elasticity theory. 75 (1974) 303-319

On isotropic tensors and elastic moduli. 75 (1974) 427-436
A note on variational theorems in non-linear elastostatics. 77 (1975) 609-615

Okikiolu, G. O. Uniformly bounded projections and semi-groups of operators. 75 (1974) 199-217
Ostaszewski, A. J. Martin's axiom and Hausdorff measures. 75 (1974) 193-197
Ostling, E. G. \& Wilansky, A. Locally convex topologies and the convex compactness property. 75 (1974) 45-50
Ottaway, M. \& Brewster, B. The supersolvable residual of an $L_{1}$-group. 80 (1976) 447-450
Pandey, J. N. On the Stieltjes transform of generalized functions. 71 (1972) 85-96
Pandey, J. N. \& Pathak, R. S. A distributional Hardy transformation. 76 (1974) 247-262
Papangelov, F. Point processes on spaces of flats and other homogeneous spaces. 80 (1976) 297-314
Parry, G. P. On the elasticity of monatomic crystals. 80 (1976) 189-211
Patel, L. K. Some wave solutions in general relativity. 75 (1974) 261-267
Pathak, R. S. \& Pandey, J. N. A distributional Hardy transformation. 76 (1974) 247262
Patodi, V. K., Singer, I. M. \& Atiyah, M.F. Spectral asymmetry and Riemannian geometry.I 77 (1975) 43-69
Spectral asymmetry and Riemannian geometry. II. 78 (1975) 405-432 Spectral asymmetry and Riemannian geometry. III. 79 (1976) 71-99
Pavelle, R. A decomposition identity for a class of Riemannian invariants. 72 (1972) 459-464
The variational derivative of degenerate Lagrange densities. 73 (1973) 167-172
Payton, R. G. Wave-front singularities for two-dimensional anisotropic elastic waves. 72 (1972) 105-116

Peers, Beryl J. $L_{p}(G)$-isotone measures. 78 (1975) 471-481
Pemberton, M. \& Melrose, R. B. Periodic solutions of certain nonlinear autonomous wave equations. 78 (1975) 137-143
Peregrine, D. H. \& Smith, R. Stationary gravity waves on non-uniform free streams: jet-like streams. 77 (1975) 415-438
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