INDEX TO VOLUME 121

"Starred items are “Shorter Notes”.

Adamski, Wolfgang. On extremal extensions of regular contents and measures, 1159.
Aiena, Pietro and Laursen, Kjeld B. Multipliers with closed range on regular commutative Banach algebras, 1039.
Al-Salam, Waleed A. and Ismail, Mourad E. H. A q-beta integral on the unit circle and some biorthogonal rational functions, 553.
Ashbaugh, Mark S. and Benguria, Rafael D. Bounds for ratios of eigenvalues of the Dirichlet Laplacian, 145.
Athavale, Ameer. On a minimal normal dilation problem, 843.
Attia, H. On the dimensional properties of the Stone-Cech remainder of P_{0}-spaces, 1245.
Azad, H. A remark on the moment map, 1295.
Bae, Jong Sook. See Park, Sehie
Baker, John A. A functional equation from probability theory, 767.
Ball, Joseph A. and Clancey, Kevin F. Interpolation with meromorphic matrix functions, 491.
Barone-Netto, Angelo and Zampieri, Gaetano. How far can one move from a potential peak with small initial speed?, 711.
Basile, Achille. Finitely additive correspondences, 883.
Benguria, Rafael D. See Ashbaugh, Mark S.
Benson, D. J. and Feshbach, M. On the cohomology of split extensions, 687.
Bergen, Jeffrey. A correspondence theorem for modules over Hopf algebras, 343.
van den Bergh, Michel. A converse to Stanley’s conjecture for SL{2}, 47.
Berkovich, Yakov. On induced characters, 679.
Bernstein, Daniel J. A non-iterative 2-adic statement of the 3N + 1 conjecture, 405.
Bhaskara Rao, K. P. S. See Basile, A.
Bisch, Dietmar. Central sequences in subfactors II, 725.
Bisgaard, T. Positive definite operator sequences, 1185.
Blasius, A. A linear recurrence system, 1003.
Bradley, David. On a claim of Ramanujan about certain hypergeometric series, 1145.
Bradley, Richard C. On regularity conditions for random fields, 593.
Carletti, E. and Monti Bragadin, G. On Dirichlet series associated with polynomials, 33.
Carson, Andrew B. A characterization of function rings with Boolean domain, 13.
Catepillan, Ximena, Ptak, Marek, and Szymański, Waclaw. Multiple canonical decompositions of families of operators and a model of quasinormal families, 1165.
Chang, Shioh-Yu. Borsuk’s antipodal and fixed-point theorems for set-valued maps, 937.
Chatters, A. W. and Hajarnavis, C. R. Quotient rings of Noetherian module finite rings, 335.
Chen, Hanfeng. Comparisons of lognormal population means, 915.
Cheng Lixin. See Wu Congxin
Cheung, Leung-Fu. The nonexistence of some noncompact constant mean curvature surfaces, 1207.
Chigogidze, A. Finding a boundary for a Menger manifold, 631.
Choi, K. P. On the medians of Gamma distributions and an equation of Ramanujan, 245.
Choudary, A. D. R. and Dimca, A. Koszul complexes and hypersurface singularities, 1009.
Chow, Yunshyong, Gatteschi, L., and Wong, R. A Bernstein-type inequality for the Jacobi polynomial, 703.
Chua, Seng-Kee. On weighted Sobolev interpolation inequalities, 441.
INDEX TO VOLUME 121

Chui, Charles K. and Li, Xin. Generalized wavelet decompositions of bivariate functions, 125.
Chui, Charles K. and Shi, Xianliang. \(n\times\) oversampling preserves any tight affine frame for odd \(n\), 511.
Clancey, Kevin F. See Ball, Joseph A.
Cobos, Fernando and Fernandez-Martinez, Pedro. A duality theorem for interpolation methods associated to polygons, 1093.
Cohen, J. See Ash, J. M.
Cortiñas, G. and Weibel, C. Homology of Azumaya algebras, 53.
Costenoble, Steven R., Steiner, Michael, and Waner, Stefan. Fixed sets of unitary G-manifolds, 1275.
Couture, R. See Allouche, M.
Cox, Ben. Generalizations of Deodhar’s \(a\)-localization functor, 981.
Csörő, Miklós, Lin, Zheng-Yan, and Shao, Qi-Man. Path properties for \(l^\infty\)-valued Gaussian processes, 225.
Curto, Raúl E. and Jian, Renyi. A matricial identity involving the self-commutator of a commuting \(n\)-tuple, 461.
Daigle, D. Purely inseparable extensions of \(k[X, Y]\), 1.
Davis, Burgess and Zhang, Biao. Moments of the lifetime of conditioned Brownian motion in cones, 925.
Deliu, Anca and Wingren, Peter. The Takaga operator, Bernoulli sequences, smoothness conditions, and fractal curves, 871.
Destrempes, F. and Pianzola, A. On a counting formula of Djoković for elements of finite order in compact Lie groups, 943.
Dimca, A. See Choudary, A. D. R.
Dinwoodie, I. H. Observing a preferred distribution, 585.
Donnelly, Harold. Nodal sets for sums of eigenfunctions on Riemannian manifolds, 967.
Dotzel, Ronald M. Equivariant maps for homology representations, 961.
Dow, A. and van Mill, J. Dense extremally disconnected subspaces, 931.
Du Hong-ke. A characterization of positive constrictive operators, 755.
Du Hong-Ke and Pan Jin. Perturbation of spectrums of \(2 \times 2\) operator matrices, 761.
Dzinotyiweyi, Heneri A. M. A characterisation of absolutely continuous measures on topological semigroups, 1103.
El Kaabouchi, A. Mesures dominées par une capacité alternée d’ordre 2, 823.
Essannouni, H. and Kaidi, A. Goldie’s theorem for alternative rings, 39.
van den Essen, Arno. Locally finite and locally nilpotent derivations with applications to polynomial flows, morphisms, and \(\mathfrak{g}_a\)-actions. II, 667.
Fan, Peng and Fong, Che-Kao. An intrinsic characterization for zero-diagonal operators, 803.
Farmer, Jeff D. Extreme points of the unit ball of the space of Lipshitz functions, 807.
Farrell, F. T. and Jones, L. E. Exotic smoothings of hyperbolic manifolds which do not support pinched negative curvature, 627.
Fečkan, Michal. Differential equations with nonlinear boundary conditions, 103.
Fernandez-Martinez, Pedro. See Cobos, Fernando
Feshbach, M. See Benson, D. J.
Fong, Che-Kao. See Fan, Peng
Foran, James. On the translates of a set which meet it in a set of positive measure, 893.
Freiling, C. See Ash, J. M.
*Fu, Siqi. A sharp estimate on the Bergman kernel of a pseudoconvex domain, 979.
Füredi, Zoltán and Loeb, Peter A. On the best constant for the Besicovitch covering theorem, 1063.
Gan, Dan-Yan. See Guo, Jian-Han
Gan, Xiao-Xiong and Stromberg, Karl R. On universal primitive functions, 151.
INDEX TO VOLUME 121

Gardner, R. J. and Volčič, A.  Convex bodies with similar projections, 563.
Gatteschi, L.  See Chow, Yunshyong
Gersten, S. M.  The automorphism group of a free group is not a CAT(0) group, 999.
Gluck, L.  See Ash, J. M.
Goodearl, K. R. and Letzter, E. S.  Prime factor algebras of the coordinate ring of quantum matrices, 1017.
Guan, Zhengyuan.  Solvability of semilinear equations with compact perturbations of operators of monotone type, 93.
Guilbault, Craig R.  Linked pairs of contractible polyhedra in $S^n$, 1271.
Guo, Jian-Han and Gan, Dan-Yan.  Representing characteristic homology classes of $mCP^2#nCP^2$, 1251.
Guo, Kanghui.  A remark on the spectral synthesis property for hypersurfaces of $R^n$, 185.
Gupta, Sanjiv Kumar, Madan, Shobha, and Tewari, U. B.  The conjugation operator on $A_q(G)$, 163.
Hadwin, Don.  Closures of direct sums of classes of operators, 697.
Hager, W. W.  See Dontchev, A. L.
Hajarnavis, C. R.  See Chatters, A. W.
Hakim, Jeffrey.  Howe/Kirillov theory for $p$-adic symmetric spaces, 1299.
Hanaki, Akihide.  A characterization of $M_2$-groups, 357.
Harrison, Jenny C.  Numerical integration of vector fields over curves with zero area, 715.
Heindorf, Lutz.  Graph spaces and $(\perp)$-free Boolean algebras, 657.
Heinzer, William J. and Lantz, David C.  ACCP in polynomial rings: A counterexample, 975.
Hening, Wolfgang.  A remark on the spectral synthesis property for hypersurfaces of $R^n$, 185.
Hersch, Josephus.  Growth property for the minimal surface equation in unbounded domains, 1027.
Ismail, Mourad E. H.  See Al-Salam, Waleed A.
Ivanov, A. A.  Stable absolutely ubiquitous structures, 221.
Iwanik, A.  Cyclic approximation of irrational rotations, 691.
Jian, Renyi.  See Curto, Raul E.
Jones, L. E.  See Farrell, F. T.
Kaidi, A.  See Essannouni, H.
Kang, Hoo Kyung.  See Park, Sehie
Katsevich, A. I. and Ramm, A. G.  Nonparametric estimation of the singularities of a signal from noisy measurements, 1221.
Kerckhove, Michael.  Isolated orbits of the adjoint action and area-minimizing cones, 497.
Kirchheim, Bernd.  Rectifiable metric spaces: Local structure and regularity of the Hausdorff measure, 113.
Komjáth, Péter.  Ramsey-theory and forcing extensions, 217.
Krause, Henning.  The kernel of an irreducible map, 57.
Kroó, András.  A geometric approach to the multivariate Müntz problem, 199.
Kulkarni, S. H.  Representation of a real $B^*$-algebra on a quaternionic Hilbert space, 505.
Kumar, A. and Peyerimhoff, A.  Absolute conjugate Fourier effective methods and functions, 1123.
Lantz, David C.  See Heinzer, William J.
Lashof, R.  Homogeneous Hamiltonian G-bundles, 599.
Laursen, Kjeld B.  See Aiena, Pietro
Lavine, Richard.  The eigenvalue gap for one-dimensional convex potentials, 815.
Ledoux, M.  A simple analytic proof of an inequality by P. Buser, 951.
Lee, Joo S. *Almost periodic homeomorphisms and p-adic transformation groups on compact 3-manifolds*, 267.

Letzter, E. S. *See* Goodearl, K. R.

Li, Hongnian. *On the number of generators of modules over polynomial rings*, 347.

Li, Xin. *See* Chui, Charles K.


Lin, Zheng-Yan. *See* Csörgö, Miklós

Loeb, Peter A. *See* Füredi, Zoltán


Ma Jingjing. *The unitability of l-prime lattice-ordered rings with squares positive*, 991.

Madan, Shobha. *See* Gupta, Sanjiv Kumar


van Mill, J. *See* Dow, A.

Mingarelli, Angelo B. *A class of maps in an algebra with indefinite metric*, 1177.


Monti Bragadin, G. *See Carletti, E.*

Müller, Detlef. *A homogeneous, globally solvable differential operator on a nilpotent Lie group which has no tempered fundamental solution*, 307.


Nguyen Duy Thai Son. *See* Tran Duc Van


Nguyen To Nhu and Sakai, Katsuro. *The compact neighborhood extension property and local equi-connectedness*, 259.

Onneweer, C. W. and Quek, T. S. *On H^p(R^n)-multipliers of mixed-norm type*, 543.

Pan Jin. *See* Du Hong-Ke

Park, Sehie, Bae, Jong Sook, and Kang, Hoo Kyung. *Geometric properties, minimax inequalities, and fixed point theorems on convex spaces*, 429.

Park, Sehie, Singh, S. P., and Watson, Bruce. *Some fixed point theorems for composites of acyclic maps*, 1151.

Passman, D. S. *Semi-primitivity of group algebras of infinite simple groups of Lie type*, 399.


Patterson, Paul L. *Involutions on algebras arising from locally compact groups*, 739.

Payá, Rafael. *See* Contreras, Manuel D.

Peck, N. T. *A factorization constant for l^p_0, 0 < p < 1*, 423.


Penconek, Marcin and Zakrzewski, Piotr. *The existence of nonmeasurable sets for invariant measures*, 579.


Petrović, Srdjan. *On the similarity of centered operators to contractions*, 533.

Peyerimhoff, A. *See* Kumar, A.

Pianzola, A. *See* Destrempes, F.


Poon, Yat Sun. *See* Pedersen, Henrik

Prolla, João B. *Density of infimum-stable convex cones*, 175.


Ptak, Marek. *See* Catepillán, Ximena

Puczyłowski, E. R. *See* Beidar, K. I.

Quan, Xi-Chi. *Finite dimensionality of irreducible unitary representations of compact quantum groups*, 851.
INDEX TO VOLUME 121

Quek, T. S. See Onneweer, C. W.
Ramm, A. G. See Katsevich, A. I.
Rico, L. See Pérez, J.
Rieder, E. See Ash, J. M.
del Río Castillo, Rafael Rene. A forbidden set for embedded eigenvalues, 77.
Rodriguez, A. See Pérez, J.
Sakai, Katsuro. See Nguyen To Nhu
Sakaki, Makoto. Minimal surfaces with the Ricci condition in 4-dimensional space forms, 573.
Sato, Yoshihisa. Scharlemann's 4-manifolds and smooth 2-knots in S^2 × S^2, 1289.
Sebestyén, Zoltán. Anticommutant lifting and anticommuting dilation, 133.
Sengupta, Ambar. Gauge invariant functions of connections, 897.
Shaker, R. J., Jr. Constant codimension fixed sets of commuting involutions, 275.
Shao, Qi-Man. See Csörgö, Miklós
Shen, Li-Chien. See McCullough, Scott
Sherr, R. B. A complement theorem in the universal Menger compactum, 611.
Shi, Xianliang. See Chui, Charles K.
Shortt, R. M. See Basile, A.
Simons, G. E. Finite rings in varieties with definable principal congruences, 649.
Singh, S. P. See Park, Sehie
Smith, P. F. See Beidar, K. I.
Sodin, Mikhail. An elementary proof of Benedicks’s and Carleson’s estimates of harmonic measure of linear sets, 1079.
Spielberg, Jack. See Loring, Terry A.
Spindler, Karlheinz. Cartan algebras and involutions, 323.
Spruill, M. C. See Hill, Theodore P.
Stadje, W. A characterization of the exponential distribution involving absolute differences of i.i.d. random variables, 237.
Steiner, Michael. See Costenoble, Steven R.
Stembridge, John R. Some particular entries of the two-parameter Kostka matrix, 367.
Stolin, Alexander. An explicit formula for the Picard group of the cyclic group of order p^2, 375.
Stromberg, Karl R. See Gan, Xiao-Xiong
Sun, Limin. An uncertainty principle on hyperbolic space, 471.
Sweezy, Caroline. The Hausdorff dimension of elliptic and elliptic-caloric measure in R^n, n ≥ 3, 787.
Szymański, Wacław. See Catapillán, Ximena
Takahashi, Yuji. Functions with a unique mean value and amenability, 775.
Tall, Franklin D. σ-centred forcing and reflection of (sub)metrizability, 299.
Tang, Junjie. Solvability of the equation Δxu + Su^α = Su on manifolds, 83.
Tewari, U. B. See Gupta, Sanjiv Kumar
Tirao, Juan. On the left ideal in the universal enveloping algebra of a Lie group generated by a complex Lie subalgebra, 1257.
Tran Duc Van and Nguyen Duy Thai Son. On a class of Lipschitz continuous functions of several variables, 865.
Tsai, C. T. See Allouche, M.
Upadhyay, S. K. See Pathak, R. S.
Van Eeuwen, Jeff. The Discrete Schwarz-Pick Lemma for overlapping circles, 1087.
Volčič, A. See Gardner, R. J.
*Voloch, José Felipe. Siegel’s theorem for complex function fields, 1307.
Walker, Louise. See Rowley, Peter
Waner, Stefan. See Costenoble, Steven R.
Wang, G. See Ash, J. M.
INDEX TO VOLUME 121

Wang, Xue-Kuan. Derivations in prime near-rings, 361.
Watson, Bruce. See Park, Sehie
*Wehrung, Friedrich. Baire paradoxical decompositions need at least six pieces, 643.
Weibel, C. See Cortiñas, G.
Wingren, Peter. See Deliu, Anca
Wong, R. See Chow, Yunshyong
Yan, Keren. An index formula for an n-tuple of shifts on the polydisk, 747.
Yan, Zhimin. A norm-preserving $H^\infty$ extension problem, 1049.
Young, Sam W. The representation of homeomorphisms on the interval as finite compositions of involutions, 605.
Zakrzewski, Piotr. See Penconek, Marcin
Zampieri, Gaetano. See Barone-Netto, Angelo
Zarouf, Fouad. See Davidson, Kenneth R.
Zhang, Biao. See Davis, Burgess
Zhou, Jiazu. The sufficient condition for a convex body to enclose another in $\mathbb{R}^4$, 907.
Zhou Zhengping. What strong monotonicity condition on Fourier coefficients can make the ratio $\|f - S_n(f)\|/E_n(f)$ bounded?, 779.
Zhou Zhengping. Correspondence theorems for nondegenerate modules and their endomorphism rings, 25.
Zumbrun, Kevin. See Lyons, Russell
A. ALGEBRA, NUMBER THEORY, AND COMBINATORICS

D. Daigle, Purely inseparable extensions of \([X, Y] \) .................................................. 1
Andrew B. Carson, A characterization of function rings with Boolean domain .......... 13
Zhou Zhengping, Correspondence theorems for nondegenerate modules and their endomorphism rings .......................................................... 25
E. Carletti and G. Monti Bragadin, On Dirichlet series associated with polynomials .. 33
H. Essannouni and A. Kaidi, Goldie’s theorem for alternative rings ................. 39
Michel van den Bergh, A converse to Stanley’s conjecture for \(S_l_2 \) .............. 47
G. Cortiñas and C. Weibel, Homology of Azumaya algebras .......................... 53
Henning Krause, The kernel of an irreducible map ............................................. 57
Yun Gao, Central extensions of nonsymmetrizable Kac-Moody algebras over commutative algebras .......................................................... 67

B. ANALYSIS

Rafael Rene del Rio Castillo, A forbidden set for embedded eigenvalues .............. 77
Junjie Tang, Solvability of the equation \(\Delta_x u + \hat{S}u^\sigma = Su \) on manifolds .......... 83
Zhengyuan Guan, Solvability of semilinear equations with compact perturbations of operators of monotone type .................................. 93
Michal Fečkan, Differential equations with nonlinear boundary conditions .......... 103
Bernd Kirchheim, Rectifiable metric spaces: Local structure and regularity of the Hausdorff measure ............................................................ 113
Charles K. Chui and Xin Li, Generalized wavelet decompositions of bivariate functions .... 125
Zoltán Sebestyén, Anticommutant lifting and anticommuting dilation ............. 133
A. Basile, K. P. S. Bhaskara Rao, and R. M. Shortt, Bounded common extensions of charges 137
Mark S. Ashbaugh and Rafael D. Benguria, Bounds for ratios of eigenvalues of the Dirichlet Laplacian ......................................................... 145
Xiao-Xiong Gan and Karl R. Stromberg, On universal primitive functions .......... 151
Sanjiv Kumar Gupta, Shobha Madan, and U. B. Tewari, The conjugation operator on \(A_q(G) \) .................................................. 163
Chuanyi Zhang, Integration of vector-valued pseudo-almost periodic functions ...... 167
João B. Prolla, Density of infimum-stable convex cones .................................. 175
S. P. Zhou, On the Müntz rational approximation rate .................................... 179
Kanghui Guo, A remark on the spectral synthesis property for hypersurfaces of \(R^n \) .... 185
Zhong-Jin Ruan, A characterization of nonunital operator algebras .............. 193
András Kroó, A geometric approach to the multivariate Müntz problem .......... 199
Sa’ar Hersonsky, A generalization of the Shimizu-Leutbecher and Jorgensen inequalities to Möbius transformations in \(R^N \) .......................... 209

E. LOGIC AND FOUNDATIONS

Péter Komjáth, Ramsey-theory and forcing extensions .................................... 217
A. A. Ivanov, Stable absolutely ubiquitous structures ................................. 221

F. STATISTICS AND PROBABILITY

Miklós Csörgő, Zheng-Yan Lin, and Qi-Man Shao, Path properties for \(l^\infty \)-valued Gaussian processes ........................................ 225
W. Stadje, A characterization of the exponential distribution involving absolute differences of i.i.d. random variables ................................................................. 237
K. P. Choi, On the medians of Gamma distributions and an equation of Ramanujan ...... 245
Pawel Hitczenko, On the behavior of the constant in a decoupling inequality for martingales 253

G. TOPOLOGY

Nguyen To Nhu and Katsuro Sakai, The compact neighborhood extension property and local equi-connectedness .............................................................. 259
Joo S. Lee, Almost periodic homeomorphisms and $p$-adic transformation groups on compact 3-manifolds ................................................................................. 267
R. J. Shaker Jr., Constant codimension fixed sets of commuting involutions .............. 275
Lizhen Ji, Degeneration of pseudo-Laplace operators for hyperbolic Riemann surfaces . . 283
Jerzy Dydak, Union theorem for cohomological dimension: A simple counterexample .... 295
Franklin D. Tall, $\sigma$-centred forcing and reflection of (sub)metrizability .................. 299
Detlef Müller, A homogeneous, globally solvable differential operator on a nilpotent Lie group which has no tempered fundamental solution ............................................ 307

SHORTER NOTES

Thomas Jech, On Gödel's second incompleteness theorem ........................................ 311
Russell Lyons and Kevin Zumbrun, Homogeneous partial derivatives of radial functions .. 315

Vol. 121, No. 2 Whole No. 420 June 1994

A. ALGEBRA, NUMBER THEORY, AND COMBINATORICS

Peter Rowley and Louise Walker, A note on the $\text{M}_{23}$- and $\text{Fi}_{23}$-minimal parabolic geometries 317
Karlheinz Spindler, Cartan algebras and involutions .................................................. 323
A. W. Chatters and C. R. Hajarnavis, Quotient rings of Noetherian module finite rings ... 335
Jeffrey Bergen, A correspondence theorem for modules over Hopf algebras ............... 343
Hongnian Li, On the number of generators of modules over polynomial rings .......... 347
Sheng Chen, On the size of finite Sidon sequences ..................................................... 353
Akihide Hanaki, A characterization of $M_p$-groups .................................................. 357
Xue-Kuan Wang, Derivations in prime near-rings ..................................................... 361
John R. Stembridge, Some particular entries of the two-parameter Kostka matrix ....... 367
Alexander Stolin, An explicit formula for the Picard group of the cyclic group of order $p^2$ 375
Enrique Artal-Bartolo, Combinatorics and topology of line arrangements in the complex projective plane ................................................................. 385
K. I. Beidar, E. R. Puczyłowski, and P. F. Smith, Krull dimension of modules over involution rings .................................................................................. 391
D. S. Passman, Semiprimitivity of group algebras of infinite simple groups of Lie type ... 399
Daniel J. Bernstein, An explicit 2-adic statement of the $3N + 1$ conjecture ............... 405
K. M. Rangaswamy, A homological characterization of abelian $B_2$-groups ............... 409

B. ANALYSIS

Nguyen Huy Viet, Fixed point theorems for multi-valued mappings in subsymmetrizable spaces ...................................................................................... 417
N. T. Peck, A factorization constant for $L^p_0$, $0 < p < 1$ ......................................... 423
Sehie Park, Jong Sook Bae, and Hoo Kyung Kang, Geometric properties, minimax inequalities, and fixed point theorems on convex spaces .......................... 429
Seng-Kee Chua, On weighted Sobolev interpolation inequalities .............................. 441
Manuel D. Contreras and Rafael Payá, On upper semicontinuity of duality mappings .... 451
Raul E. Curto and Renyi Jian, A matricial identity involving the self-commutator of a commuting $n$-tuple ................................................................. 461
Z. Zhao, Positive solutions of nonlinear second order ordinary differential equations .... 465
Limin Sun, An uncertainty principle on hyperbolic space ........................................ 471
A. L. Dontchev and W. W. Hager, An inverse mapping theorem for set-valued maps .... 481
Joseph A. Ball and Kevin F. Clancey, Interpolation with meromorphic matrix functions . 491
Michael Kerckhove, Isolated orbits of the adjoint action and area-minimizing cones .... 497
S. H. Kulkarni, Representation of a real $B^*$-algebra on a quaternionic Hilbert space ... 505
Charles K. Chui and Xianliang Shi, $n \times$ oversampling preserves any tight affine frame for odd $n$ ................................................................. 511
Kenneth R. Davidson and Fouad Zarouf, Incompatibility of compact perturbations with the Sz. Nagy-Foiaş functional calculus ......................................................... 519
Phan H. Loi, Remarks on automorphisms of subfactors ........................................... 523
Srdjan Petrović, On the similarity of centered operators to contractions ..................... 533
C. W. Onneweer and T. S. Quek, On $H^p(R^n)$-multipliers of mixed-norm type .......... 543
Waleed A. Al-Salam and Mourad E. H. Ismail, A $q$-beta integral on the unit circle and some biorthogonal rational functions ................................................. 553

D. GEOMETRY

R. J. Gardner and A. Volčič, Convex bodies with similar projections ....................... 563
Xiaohuan Mo, Minimal surfaces with constant Kähler angle in complex projective spaces . 569
Makoto Sakaki, Minimal surfaces with the Ricci condition in 4-dimensional space forms . 573

E. LOGIC AND FOUNDATIONS

Marcin Penconek and Piotr Zakrzewski, The existence of nonmeasurable sets for invariant measures ......................................................................................... 579

F. STATISTICS AND PROBABILITY

I. H. Dinwoodie, Observing a preferred distribution ................................................. 585
Slobodanka Mitrovic, A note concerning a theorem of Cramer ................................... 589
Richard C. Bradley, On regularity conditions for random fields ............................... 593

G. TOPOLOGY

R. Lashof, Homogeneous Hamiltonian $G$-bundles .................................................. 599
Sam W. Young, The representation of homeomorphisms on the interval as finite compositions of involutions ................................................................. 605
R. B. Sher, A complement theorem in the universal Menger compactum .................... 611
Jonathan A. Hillman, On 4-manifolds with finitely dominated covering spaces .......... 619
F. T. Farrell and L. E. Jones, Exotic smoothings of hyperbolic manifolds which do not support pinched negative curvature ............................................. 627
A. Chigogidze, Finding a boundary for a Menger manifold ...................................... 631

SHORTER NOTES

Wolfgang Hensgen, An example concerning the Yosida-Hewitt decomposition of finitely additive measures ................................................................. 641
Friedrich Wehrung, Baire paradoxical decompositions need at least six pieces ........... 643
Józef H. Przytycki, A note on the Lickorish-Millett-Turaev formula for the Kauffman polynomial ............................................................. 645

Vol. 121, No. 3 Whole No. 421 July 1994

A. ALGEBRA, NUMBER THEORY, AND COMBINATORICS

G. E. Simons, Finite rings in varieties with definable principal congruences .............. 649
Lutz Heindorf, Graph spaces and $\perp$-free Boolean algebras .................................. 657
Arno van den Essen, Locally finite and locally nilpotent derivations with applications to polynomial flows, morphisms, and $\mathbb{G}_a$-actions. II .............................................. 667
Yakov Berkovich, On induced characters .................................................. 679
D. J. Benson and M. Feshbach, On the cohomology of split extensions ............. 687

B. ANALYSIS

A. Iwanik, Cyclic approximation of irrational rotations .................................. 691
Don Hadwin, Closures of direct sums of classes of operators ......................... 697
Yunshyong Chow, L. Gatteschi, and R. Wong, A Bernstein-type inequality for the Jacobi polynomial .............................................................................................................. 703
Angelo Barone-Netto and Gaetano Zampieri, How far can one move from a potential peak with small initial speed? ............................................................... 711
Jenny C. Harrison, Numerical integration of vector fields over curves with zero area ... 715
Dietmar Bisch, Central sequences in subfactors II ........................................... 725
R. S. Pathak and S. K. Upadhyay, $W^p$-spaces and Fourier transform ............... 733
Paul L. Patterson, Involutions on algebras arising from locally compact groups ...... 739
Keren Yan, An index formula for an $n$-tuple of shifts on the polydisk ................ 747
Du Hong-ke, A characterization of positive constrictive operators ..................... 755
Du Hong-Ke and Pan Jin, Perturbation of spectrums of $2 \times 2$ operator matrices .... 761
John A. Baker, A functional equation from probability theory ............................ 767
Yuji Takahashi, Functions with a unique mean value and amenability ................. 775
S. P. Zhou, What strong monotonicity condition on Fourier coefficients can make the ratio $\|f-S_n(f)\|/E_n(f)$ bounded? .............................................................. 779
Caroline Sweezy, The Hausdorff dimension of elliptic and elliptic-caloric measure in $\mathbb{R}^n$, $n \geq 3$ ............ 787
M. Allouche, R. Couture, et C. T. Tsai, Sur un théorème de Mitiajgin, Rolewicz, et Zelazko 795
Peng Fan and Che-Kao Fong, An intrinsic characterization for zero-diagonal operators ... 803
Jeff D. Farmer, Extreme points of the unit ball of the space of Lipshitz functions .... 807
Richard Lavine, The eigenvalue gap for one-dimensional convex potentials .......... 815
A. El Kaabouchi, Mesures dominées par une capacité alternée d’ordre 2 ................. 823
Ameer Athavale, On a minimal normal dilation problem ..................................... 843
Xiu-Chi Quan, Finite dimensionality of irreducible unitary representations of compact quantum groups ................................................................. 851
Henrik Pedersen and Yat Sun Poon, Self-duality and differentiable structures on the connected sum of complex projective planes ................................. 859
Tran Duc Van and Nguyen Duy Thai Son, On a class of Lipschitz continuous functions of several variables ................................................................. 865
Anca Deliu and Peter Wingren, The Takaga operator, Bernoulli sequences, smoothness conditions, and fractal curves ...................................................... 871
Achille Basile, Finitely additive correspondences ............................................... 883
James Foran, On the translates of a set which meet it in a set of positive measure .... 893

C. APPLIED MATHEMATICS

Ambar Sengupta, Gauge invariant functions of connections ................................. 897

D. GEOMETRY

Jiazu Zhou, The sufficient condition for a convex body to enclose another in $\mathbb{R}^4$ .......... 907

F. STATISTICS AND PROBABILITY

Hanfeng Chen, Comparisons of lognormal population means .............................. 915
Burgess Davis and Biao Zhang, Moments of the lifetime of conditioned Brownian motion in cones ................................................................. 925

G. TOPOLOGY

A. Dow and J. van Mill, Dense extremally disconnected subspaces ..................... 931
Shiow-Yu Chang, Borsuk's antipodal and fixed-point theorems for set-valued maps .......... 937
F. Destrempes and A. Pianzola, On a counting formula of Djoković for elements of finite
order in compact Lie groups ........................................ 943
M. Ledoux, A simple analytic proof of an inequality by P. Buser ................................. 951
Ronald M. Dotzel, Equivariant maps for homology representations .......................... 961
Harold Donnelly, Nodal sets for sums of eigenfunctions on Riemannian manifolds ...... 967

SHORTER NOTES

William J. Heinzer and David C. Lantz, ACCP in polynomial rings: A counterexample ... 975
Siqi Fu, A sharp estimate on the Bergman kernel of a pseudoconvex domain ................. 979

Vol. 121, No. 4 Whole No. 422 August 1994

B. ANALYSIS

Jenn-Fang Hwang, Growth property for the minimal surface equation in unbounded do-
mains ................................................................. 1027
Pietro Aliena and Kjeld B. Laursen, Multipliers with closed range on regular commutative
Banach algebras ...................................................... 1039
Zhimin Yan, A norm-preserving $H^\infty$ extension problem ...................................... 1049
Wu Congxin and Cheng Lixin, A note on the differentiability of convex functions .......... 1057
Zoltán Füredi and Peter A. Loeb, On the best constant for the Besicovitch covering theorem 1063
Li Xing-Min, On the factorization of $A_p$ weights .................................................. 1075
Mikhail Sodin, An elementary proof of Benedicks's and Carleson's estimates of harmonic
measure of linear sets ................................................. 1079
Jeff Van Eeuwen, The Discrete Schwarz-Pick Lemma for overlapping circles ................. 1087
Fernando Cobos and Pedro Fernandez-Martínez, A duality theorem for interpolation methods
associated to polygons ................................................ 1093
Heneri A. M. Dzinotyiwei, A characterisation of absolutely continuous measures on topo-
logical semigroups .................................................... 1103
Scott McCullough and Li-Chien Shen, On the Szegő kernel of an annulus .................... 1111
A. Kumar and A. Peyerimhoff, Absolute conjugate Fourier effective methods and functions
J. Pérez, L. Rico, and A. Rodríguez, Full subalgebras of Jordan-Banach algebras and algebra
norms on $J B^*$-algebras ........................................... 1133
David Bradley, On a claim of Ramanujan about certain hypergeometric series .............. 1145
Sehie Park, S. P. Singh, and Bruce Watson, Some fixed point theorems for composites of
acyclic maps .......................................................... 1151
Wolfgang Adamski, On extremal extensions of regular contents and measures ............... 1159
Ximena Catépillán, Marek Ptak, and Waclaw Szymański, Multiple canonical decompositions
of families of operators and a model of quasinormal families .................................. 1165
Terry A. Loring and Jack Spielberg, Approximation of normal elements in the multiplier
algebra of an AF $C^*$-algebra ......................................... 1173
Angelo B. Mingarelli, A class of maps in an algebra with indefinite metric .................... 1177
T. Bisgaard, Positive definite operator sequences ................................................ 1185
Danielle Hilhorst and Josephus Hulshof, A free boundary focusing problem .................. 1193

C. APPLIED MATHEMATICS

Sudarsan Nanda, On a complementarity problem in Banach space .............................. 1203
D. GEOMETRY
Leung-Fu Cheung, The nonexistence of some noncompact constant mean curvature surfaces 1207
Karen R. Pinney, Ricci curvature and holomorphic convexity in Kähler manifolds ..... 1211
Fangyang Zheng, Kähler-Einstein surfaces with nonpositive bisectional curvature ..... 1217

F. STATISTICS AND PROBABILITY
A. I. Katsevich and A. G. Ramm, Nonparametric estimation of the singularities of a signal
from noisy measurements .............................................. 1221
Theodore P. Hill and M. C. Spruill, On the relationship between convergence in distribution
and convergence of expected extremes .............................. 1235

G. TOPOLOGY
H. Attia, On the dimensional properties of the Stone-Čech remainder of \( P_0 \)-spaces ...... 1245
Jian-Han Guo and Dan-Yan Gan, Representing characteristic homology classes of
\( m\mathbb{C}P^2 \# n\overline{\mathbb{C}P^2} \) .............................................. 1251
Juan Tirao, On the left ideal in the universal enveloping algebra of a Lie group generated by
a complex Lie subalgebra .............................................. 1257
Tang Zi-Zhou, Nonexistence of weakly almost complex structures on Grassmannians ..... 1267
Craig R. Guilbault, Linked pairs of contractible polyhedra in \( S^n \) ............................. 1271
Steven R. Costenoble, Michael Steiner, and Stefan Waner, Fixed sets of unitary \( G \)-manifolds
Yoshihisa Sato, Scharlemann's 4-manifolds and smooth 2-knots in \( S^2 \times S^2 \) .......... 1289
H. Azad, A remark on the moment map ................................ 1295
Jeffrey Hakim, Howe/Kirillov theory for \( p \)-adic symmetric spaces ............................... 1299

SHORTER NOTES
José Felipe Voloch, Siegel's theorem for complex function fields ............................. 1307

CORRIGENDUM
Sergio Stella, Corrigendum to “On Hausdorff dimension of recurrent net fractals” ...... 1309
Editorial Information

To be published in the Proceedings, a paper must be correct, new, nontrivial, and significant. Further, it must be well written and of interest to a substantial number of mathematicians. Piecemeal results, such as an inconclusive step toward an unproved major theorem or a minor variation on a known result, are in general not acceptable for publication. Proceedings Editors solicit and encourage publication of worthy papers of length not exceeding 10 published pages. Published pages are the same size as those generated in the style files provided for \LaTeX or \LaTeXe.

Very short notes not to exceed two printed pages are also accepted, and appear under the heading SHORTER NOTES. Items deemed suitable include an elegant new proof of an important and well-known theorem, an illuminating example or counterexample, or a new viewpoint on familiar results. New results, if of a brief and striking character, might also be acceptable, though in general a paper which is merely very short will not be suitable for the SHORTER NOTES department.

As of May 5, 1994, the backlog for this journal was approximately 10 issues. This estimate is the result of dividing the number of manuscripts for this journal in the Providence office that have not yet gone to the printer on the above date by the average number of articles per issue over the previous twelve months, reduced by the number of issues published in four months (the time necessary for editing and composing a typical issue).

A Copyright Transfer Agreement is required before a paper will be published in this journal. By submitting a paper to this journal, authors certify that the manuscript has not been submitted to nor is it under consideration for publication by another journal, conference proceedings, or similar publication.

Information for Authors and Editors

The first page of an article must consist of a descriptive title, followed by an abstract that summarizes the article in language suitable for workers in the general field (algebra, analysis, etc.). The descriptive title should be short, but informative; useless or vague phrases such as “some remarks about” or “concerning” should be avoided. The abstract should be at least one complete sentence, and at most 150 words. Included with the footnotes to the paper, there should be the 1991 Mathematics Subject Classification representing the primary and secondary subjects of the article. This may be followed by a list of key words and phrases describing the subject matter of the article and taken from it. A list of the numbers may be found in the annual index of Mathematical Reviews, published with the December issue starting in 1990, as well as from the electronic service e-MATH [telnet e-MATH.ams.org (or telnet 130.44.1.100). Login and password are e-math]. For journal abbreviations used in bibliographies, see the list of serials in the latest Mathematical Reviews annual index. When the manuscript is submitted, authors should supply the editor with electronic addresses if available. These will be printed after the postal address at the end of each article.

Two copies of the paper should be sent directly to the appropriate Editor and the author should keep one copy.
**Electronically prepared manuscripts.** The AMS encourages submission of electronically prepared manuscripts in \( \text{AM\TeX} \) or \( \text{AM\La\TeX} \) because properly prepared electronic manuscripts save the author proofreading time and move more quickly through the production process. To this end, the Society has prepared "preprint" style files, specifically the amspt style of \( \text{AM\TeX} \) and the amsart style of \( \text{AM\La\TeX} \), which will simplify the work of authors and of the production staff. Those authors who make use of these style files from the beginning of the writing process will further reduce their own effort. Electronically submitted manuscripts prepared in plain \TeX or \La\TeX do not mesh properly with the AMS production systems and cannot, therefore, realize the same kind of expedited processing. Users of plain \TeX should have little difficulty learning \AM\TeX, and \La\TeX users will find that \AM\La\TeX is the same as \La\TeX with additional commands to simplify the typesetting of mathematics.

*Guidelines for Preparing Electronic Manuscripts* provides additional assistance and is available for use with either \AM\TeX or \AM\La\TeX. Authors with FTP access may obtain *Guidelines* from the Society’s Internet node e-MATH.ams.org (130.44.1.100). For those without FTP access *Guidelines* can be obtained free of charge from the e-mail address guide-elec@math.ams.org (Internet) or from the Customer Services Department, American Mathematical Society, P.O. Box 6248, Providence, RI 02940-6248. When requesting *Guidelines*, please specify which version you want.

At the time of submission, authors should indicate if the paper has been prepared using \AM\TeX or \AM\La\TeX. The *Manual for Authors of Mathematical Papers* should be consulted for symbols and style conventions. The *Manual* may be obtained free of charge from the e-mail address cust-serv@math.ams.org or from the Customer Services Department, American Mathematical Society, P.O. Box 6248, Providence, RI 02940-6248. The Providence office should be supplied with a manuscript that corresponds to the electronic file being submitted.

Electronic manuscripts should be sent to the Providence office immediately after the paper has been accepted for publication. They can be sent via e-mail to pub-submit@math.ams.org (Internet) or on diskettes to the Publications Department, American Mathematical Society, P.O. Box 6248, Providence, RI 02940-6248. When submitting electronic manuscripts please be sure to include a message indicating in which publication the paper has been accepted. No corrections will be accepted electronically. Authors must mark their changes on their proof copies and return them to the Providence office. Authors and editors are encouraged to make the necessary submissions of electronically prepared manuscripts and proof copies in a timely fashion.

Any inquiries concerning a paper that has been accepted for publication should be sent directly to the Editorial Department, American Mathematical Society, P.O. Box 6248, Providence, RI 02940-6248.
Editors

Authors are requested to send papers directly to the appropriate Editor (the one whose area of responsibility and expertise, as described below, most closely approximates the subject field of the manuscript). Only when in doubt about an appropriate Editor, should manuscripts be sent to the Coordinating Editor responsible for the area in mathematics most closely connected to the paper. If in doubt about the area, send manuscript to the Managing Editor, to whom all other communication about the journal should also be addressed. (All addresses should include the line “Department of Mathematics”, unless another department is indicated.)

Managing Editor: Irwin Kra, SUNY at Stony Brook, Stony Brook, NY 11794-3651 e-mail: irwin@math.sunysb.edu

1. ODE, PDE, GLOBAL ANALYSIS, AND DYNAMICAL SYSTEMS
   Coordinating Editor: Linda Keen, CUNY-Lehman College, Bronx, NY 10468, e-mail: ljklc@univm.cuny.edu or ljklc@univm.bitnet
   Partial differential equations, Jeffrey B. Rauch, University of Michigan, Angell Hall, Ann Arbor, MI 48109-0001, e-mail: rauch@math.umsiich.edu
   Dynamical systems and ergodic theory, Mary Rees, Department of Pure Mathematics, University of Liverpool, F.O. Box 147, Liverpool L69 3BX, United Kingdom, e-mail: maryrees@liverpool.ac.uk
   Ordinary differential equations and special functions, Hal L. Smith, Arizona State University, Tempe, AZ 85287, e-mail: athls@asuacad.bitnet
   Global analysis, Linda Keen

2. LIE GROUPS, TOPOLOGY, AND GEOMETRY
   Coordinating Editor: Peter Li, University of California, Irvine, CA 92717, e-mail: plli@math.uci.edu
   Topological groups and Lie groups (symmetric spaces), Roe Goodman, Rutgers University, New Brunswick, NJ 08903, e-mail: goodman@math.rutgers.edu
   Riemannian geometry (including affine, pseudo-Riemannian, contact, classical, and Lorentzian geometries), Christopher Croke, University of Pennsylvania, Philadelphia, PA 19104, e-mail: ccroke@math.upenn.edu
   Geometric analysis (geometric PDE, minimal surfaces, harmonic maps) and Kahler geometry, Peter Li
   Algebraic topology (higher dimensional topology), Thomas Goodwillie, Brown University, Box 1917, Providence, RI 02912, e-mail: tom@brownvm.bitnet
   Metric and geometric topology, James West, Cornell University, White Hall, Ithaca, NY 14853–7901, e-mail: west@math.cornell.edu
   Set-theoretic and general topology, Franklin D. Tall, University of Toronto, Toronto, Ontario, Canada M5S 1A1, e-mail: tall@math.toronto.edu
   Low dimensional topology and differential topology (knot theory, 3- and 4-manifolds, Gauge-theory), Ronald Stern, University of California, Irvine, CA 92717, e-mail: rstern@math.uci.edu

3. ANALYSIS AND OPERATOR THEORY
   Coordinating Editor: Clifford J. Earle, Jr., Cornell University, White Hall, Ithaca, NY 14853, e-mail: cliff@math.cornell.edu
   One complex variable and potential theory, Albert Baernstein II, Washington University, St. Louis, MO 63130, e-mail: C31801AB@WUVMD.BITNET
   Several complex variables, Eric Bedford, Indiana University, Swain Hall East, Bloomington, IN 47401, e-mail: BEDFORD@ucs.indiana.edu
   Functional analysis, Dale Alspach, Oklahoma State University, Stillwater, OK 74078, e-mail: alspach@hilbert.math.okstate.edu
   Complex variables, functional analysis, and operator theory, Theodore W. Gamelin, University of California, Los Angeles, CA 90024, e-mail: twg@math.ucla.edu
   Functional analysis and operator theory, Palle E. T. Jorgensen, University of Iowa, Iowa City, IA 52242
   Classical and harmonic analysis, J. Marshall Ash, DePaul University, Chicago, IL 60614, e-mail: MATJ MARDA EP AU L.BITNET
Classical and harmonic analysis, Christopher D. Sogge, UCLA, Los Angeles, CA 90024, e-mail: sogge@math.ucla.edu

Analytic number theory and automorphic forms, Dennis A. Hejhal, School of Mathematics, University of Minnesota, Minneapolis, MN 55455, e-mail: mf10402@uc.msc.umn.edu

4. ALGEBRA, NUMBER THEORY, AND COMBINATORICS

Coordinating Editor: M. Susan Montgomery, University of Southern California, DRB 155, Los Angeles, CA 90089-1113, e-mail: smontgom@math.usc.edu

General number theory, William Adams, University of Maryland, College Park, MD 20742, e-mail: wwa@math.umd.edu

General algebra, Lance W. Small, University of California San Diego, La Jolla, CA 92093-0112, e-mail: lwsmall@ucsd.edu

Commutative algebra, Wolmer V. Vasconcelos, Rutgers University, New Brunswick, NJ 08903, e-mail: vasconce@rings.rutgers.edu

Group theory, Ronald M. Solomon, Ohio State University, Columbus, OH 43210, e-mail: solomon@function.mps.ohio-state.edu

K-theory, algebraic groups, algebraic geometry, Eric Friedlander, Northwestern University, Evanston, IL 60208, e-mail: eric@math.nwu.edu

Combinatorics, Jeffry N. Kahn, Rutgers University, New Brunswick, NJ 08903, e-mail: jkahn@elbereth.rutgers.edu

Analytic number theory and automorphic forms, Dennis A. Hejhal, School of Mathematics, University of Minnesota, Minneapolis, MN 55455, e-mail: mf10402@uc.msc.umn.edu

Logic and foundations, Andreas R. Blass, University of Michigan, Ann Arbor, MI 48109-1003, e-mail: ablass@umich.edu

Lie algebras and Lie groups, Roe Goodman, Rutgers University, New Brunswick, NJ 08903, e-mail: goodman@math.rutgers.edu

Noncommutative rings, Ken Goodearl, University of California, Santa Barbara, CA 93106, e-mail: goodearl@math.ucsb.edu

5. APPLIED MATHEMATICS, PROBABILITY, AND STATISTICS

Coordinating Editor: James Glimm, Department of Applied Mathematics and Statistics, SUNY at Stony Brook, Stony Brook, NY 11794-3600, e-mail: glimm@ams.sunysb.edu

Probability, Richard T. Durrett, Cornell University, White Hall, Ithaca, NY 14853-7901, e-mail: rtd@cornell.cit.cornell.edu

Statistics, Wei Y. Loh, Department of Statistics, University of Wisconsin, 1210 W. Dayton Street, Madison, WI 53706, e-mail: loh@stat.wisc.edu

Applied mathematics, David Sharp, Theoretic Division, Los Alamos National Laboratory MSB285, Los Alamos, NM 87545, e-mail: dhs@lanl.gov

Operations research, Joseph S. B. Mitchell, Department of Applied Mathematics and Statistics, SUNY at Stony Brook, Stony Brook, NY 11794-3600, e-mail: jsbm@ams.sunysb.edu
Karen R. Pinney, Ricci curvature and holomorphic convexity in Kähler manifolds 1211
Fangyang Zheng, Kähler-Einstein surfaces with nonpositive bisectional curvature 1217

F. STATISTICS AND PROBABILITY

A. I. Katsevich and A. G. Ramm, Nonparametric estimation of the singularities of a signal from noisy measurements 1221
Theodore P. Hill and M. C. Spruill, On the relationship between convergence in distribution and convergence of expected extremes 1235

G. TOPOLOGY

H. Attia, On the dimensional properties of the Stone-Čech remainder of ℓ₀-spaces 1245
Jian-Han Guo and Dan-Yan Gan, Representing characteristic homology classes of $mC P^2 \# nC P^2$ 1251
Juan Tirao, On the left ideal in the universal enveloping algebra of a Lie group generated by a complex Lie subalgebra 1257
Tang Zi-Zhou, Nonexistence of weakly almost complex structures on Grassmannians 1267
Craig R. Guilbault, Linked pairs of contractible polyhedra in $S^n$ 1271
Steven R. Costenoble, Michael Steiner, and Stefan Waner, Fixed sets of unitary $G$-manifolds 1275
Yoshihisa Sato, Scharlemann's 4-manifolds and smooth 2-knots in $S^2 \times S^2$ 1289
H. Azad, A remark on the moment map 1295
Jeffrey Hakim, Howe/Kirillov theory for $p$-adic symmetric spaces 1299

SHORTER NOTES

José Felipe Voloch, Siegel's theorem for complex function fields 1307

CORRIGENDUM

Sergio Stella, Corrigendum to “On Hausdorff dimension of recurrent net fractals” 1309
A. ALGEBRA, NUMBER THEORY, AND COMBINATORICS

Ben Cox, Generalizations of Deodhar's $\alpha$-localization functor ............................................ 981
Ma Jingjing, The unitability of $\mathfrak{p}$-prime lattice-ordered rings with squares positive ............... 991
S. M. Gersten, The automorphism group of a free group is not a CAT(0) group .................................. 999
A. Blasius, A linear recurrence system ................................................................................................ 1003
A. D. R. Choudary and A. Dimca, Koszul complexes and hypersurface singularities ....................... 1009
K. R. Goodearl and E. S. Letzter, Prime factor algebras of the coordinate ring of quantum matrices .......................................................... 1017

B. ANALYSIS

Jenn-Fang Hwang, Growth property for the minimal surface equation in unbounded domains ............ 1027
Pietro Aiena and Kjeld B. Laursen, Multipliers with closed range on regular commutative Banach algebras ........................................................................................................... 1039
Zhimin Yan, A norm-preserving $H^\infty$ extension problem ................................................................. 1049
Wu Congxin and Cheng Lixin, A note on the differentiability of convex functions .......................... 1057
Zoltán Füredi and Peter A. Loeb, On the best constant for the Besicovitch covering theorem ...... 1063
Li Xing-Min, On the factorization of $A_p$ weights .............................................................................. 1075
Mikhail Sodin, An elementary proof of Benedicks's and Carleson's estimates of harmonic measure of linear sets ........................................................................................................ 1079
Jeff Van Eeuwen, The Discrete Schwarz-Pick Lemma for overlapping circles .................................. 1087
Fernando Cobos and Pedro Fernandez-Martinez, A duality theorem for interpolation methods associated to polygons ............................................................................................................. 1093
Heneri A. M. Dzinotyiweyi, A characterisation of absolutely continuous measures on topological semigroups .............................................................................................................. 1103
Scott McCullough and Li-Chien Shen, On the Szegö kernel of an annulus ........................................ 1111
A. Kumar and A. Peyerimhoff, Absolute conjugate Fourier effective methods and functions .... 1123
J. Pérez, L. Rico, and A. Rodríguez, Full subalgebras of Jordan-Banach algebras and algebra norms on $JB^*$-algebras ...................................................................................................... 1133
David Bradley, On a claim of Ramanujan about certain hypergeometric series .............................. 1145
Sehie Park, S. P. Singh, and Bruce Watson, Some fixed point theorems for composites of acyclic maps ........................................................................................................................................ 1151
Wolfgang Adamski, On extremal extensions of regular contents and measures ............................. 1159
Ximena Catnipillan, Marek Ptak, and Waclaw Szymanski, Multiple canonical decompositions of families of operators and a model of quasinormal families ................................................. 1165
Terry A. Loring and Jack Spielberg, Approximation of normal elements in the multiplier algebra of an AF $C^*$-algebra ................................................................................................ 1173
Angelo B. Mingarelli, A class of maps in an algebra with indefinite metric ....................................... 1177
T. Bisgaard, Positive definite operator sequences ................................................................................. 1185
Danielle Hilhorst and Josephus Hulshof, A free boundary focusing problem ................................. 1193

C. APPLIED MATHEMATICS

Sudarsan Nanda, On a complementarity problem in Banach space .................................................. 1203

D. GEOMETRY

Leung-Fu Cheung, The nonexistence of some noncompact constant mean curvature surfaces ........... 1207

(Continued on inside back cover)