Editorial Policy

for the publication of proceedings of conferences
and other multi-author volumes

Lecture Notes aim to report new developments - quickly, informally and at a high level. The following describes criteria and procedures for multi-author volumes. For convenience we refer throughout to "proceedings" irrespective of whether the papers were presented at a meeting.

The editors of a volume are strongly advised to inform contributors about these points at an early stage.

§ 1. One (or more) expert participant(s) should act as the scientific editor(s) of the volume. They select the papers which are suitable (cf. §§ 2 - 5) for inclusion in the proceedings, and have them individually refereed (as for a journal). It should not be assumed that the published proceedings must reflect conference events in their entirety. The series editors will normally not interfere with the editing of a particular proceedings volume - except in fairly obvious cases, or on technical matters, such as described in §§ 2 - 5. The names of the scientific editors appear on the cover and title-page of the volume .

§ 2. The proceedings should be reasonably homogeneous i.e. concerned with a limited and welldefined area. Papers that are essentially unrelated to this central topic should be excluded. One or two longer survey articles on recent developments in the field are often very useful additions. A detailed introduction on the subject of the congress is desirable.

§ 3. The final set of manuscripts should have at least 100 pages and preferably not exceed a total of 400 pages . Keeping the size below this bound should be achieved by stricter selection of articles and NOT by imposing an upper limit on the length of the individual papers .

§ 4. The contributions should be of a high mathematical standard and of current interest. Research articles should present new material and not duplicate other papers already published or due to be published. They should contain sufficient background and motivation and they should present proofs, or at least outlines of such, in sufficient detail to enable an expert to complete them. Thus summaries and mere announcements of papers appearing elsewhere cannot be included, although more detailed versions of, for instance, a highly technical contribution may well be published elsewhere later.

Contributions in numerical mathematics may be acceptable without formal theorems/proofs provided they present new algorithms solving problems (previously unsolved or less well solved) or develop innovative qualitative methods, not yet amenable to a more formal treatment.

Surveys, if included, should cover a sufficiently broad topic, and should normally not just review the author's own recent research. In the case of surveys, exceptionally, proofs of results may not be necessary.

§ 5. "Mathematical Reviews" and "Zentralblatt für Mathematik" recommend that papers in proceedings volumes carry an explicit statement that they are in final form and that no similar paper has been or is being submitted elsewhere, if these papers are to be considered for a review. Normally, papers that satisfy the criteria of the Lecture Notes in Mathematics series also satisfy this requirement, but we strongly recommend that each such paper carries the statement explicitly.

§ 6. Proceedings should appear soon after the related meeting. The publisher should therefore receive the complete manuscript (preferably in duplicate) including the Introduction and Table of Contents within nine months of the date of the meeting at the latest.

§ 7. Proposals for proceedings volumes should be sent to one of the editors of the series or to Springer-Verlag Heidelberg. They should give sufficient information on the conference, and on the proposed proceedings. In particular, they should include a list of the expected contributions with their prospective length. Abstracts or early versions (drafts) of the contributions are helpful.

Further remarks and relevant addresses at the back of this book.

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J. Lindenstrauss V. D. Milman (Eds.)

Geometric Aspects of Functional Analysis

Israel Seminar (GAFA) 1989-90

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FOREWORD

This is the fifth published volume of the proceedings of the Israel Seminar on Geometric Aspects of Functional Analysis (GAFA). The previous volumes are

1983-84 published privately by Tel Aviv University

1985-86 Springer Lecture Notes, Vol. 1267

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1987-88 Springer Lecture Notes, Vol. 1376

As usual, the large majority of papers in this volume are original research papers; the others are surveys which include a considerable proportion of original research material. They are arranged, on the whole, in the order in which they were presented at the seminar.

We are grateful to Mrs. M. Hercberg, without whose help this volume could not have been prepared.

Joram Lindenstrauss, Vitali Milman

1989–1990

GAFA 1989-1990

List of Seminar Talks

3 November 1989

1. L. CARLESON (Royal Institute of Technology, Stockholm) Chaos and order in elementary dynamical systems.
2. V. MILMAN (Tel Aviv University) Some geometric duality relations.

10 November 1989

1. L. CARLESON The Hénon map and the standard map.
2. G. SCHECHTMAN (Weizmann Institute, Rehovot) Complemented subspaces of ℓ_p^n (joint work with W.B. Johnson).

26 November 1989

1. G. SCHECHTMAN What is left of the L_p^n ball after subtracting a multiple of the L_q^n ball? (joint work with J. Zinn).
2. D. BURKHOLDER (University of Illinois) Some explorations in martingale theory and Banach spaces.

10 December 1989

Y. FRIEDMAN (Jerusalem College of Technology) 1. An algebraic category in non-commutative geometry 2. Classification of Cartan domains. How exceptional domains occur.

22 December 1989

1. Y.G. SINAI (Landau Institute of Theoretical Physics, Moscow) Mathematical problems in the theory of quantum chaos.
2. H. FURSTENBERG (Hebrew University) Non-conventional ergodic averages and nilpotent groups.

7 January 1990

1. A. REZNIKOV (Tel Aviv University) Isoperimetric inequalities for simplicies.
2. Y. STERNFELD (Haifa University) Extreme points of convex bodies in euclidean spaces.

21 January 1990

J. LINDENSTRAUSS (Hebrew University) Characterizing c_0, ℓ_1 and $c_0 \oplus \ell_1$ by 2 absolutely summing operators (after Rudelson).

4 March 1990

1. A. REZNIKOV Norms on tensor products and characterizations of Hilbert spaces.
2. H. KÖNIG Some estimates for entropy numbers (after M. Defant and M. Junge).

16 March 1990

1. M. KRASNOSELSKY (Moscow) A non-conventional fixed point theorem.
2. N. TOMCZAK-JAEGERMANN (University of Alberta) Non-conventional Hilbert spaces with unconditional bases (joint work with N. Nielsen).

30 March 1990

1. N. KRUPNIK (Rehovot) On the norm of polynomials of two projections in Hilbert space (joint work with I.A. Feldman and A. Markus).
2. V. MILMAN On recent results in Local Theory (on results of Talagrand, Kashin and others)

20 April 1990

1. G. KALAI (Hebrew University) Two combinatorial isoperimetric theorems.
2. P. MÜLLER (Linz University and Weizmann Institute) On permutation of the Haar system.
3. V. MILMAN Information on new results on finite metric spaces (after J. Matoušek).

27 April 1990

1. G. MARGULIS (Institute on Problems of Information Transmission, Moscow) On a simplified proof of the Oppenheim conjecture.
2. J. BOURGAIN (IHES, France) Volumes of sections of convex bodies in $\mathbb{R}^n$.

6 May 1990

1. A. PELCZYNSKI (Polish Academy of Sciences, Warsaw) Some remarks on John's ellipsoid.
2. H. GLUSKIN (Tel Aviv University) A local version of Menshov's Theorem (after Kašin).

18 May 1990

1. W.B. JOHNSON (Texas A&M University) Characterizing weak Hilbert spaces by approximation properties (joint work with G. Pisier).
2. J. BOURGAIN Distribution of polynomials on convex sets.
3. A. PELCZYNSKI Parallelepipeds of minimal volume containing a symmetric convex body (joint work with S.J. Szarek).

3 June 1990

1. Y. BENYAMINI (Technion, Haifa) Characterization of harmonic and holomorphic functions by the mean value property (joint work with Y. Weit).
2. J. LINDENSTRAUSS Covering sets in R^n by balls of the same diameter (joint work with J. Bourgain).
3. S. REISNER (Haifa University) Characterizing logconcave and affinely rotation invariant measures by the location of the centroids of their sections (joint work with M. Meyer).

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