AUSTRALIAN MATHEMATICAL SOCIETY LECTURE SERIES

Introduction to Linear and Convex Programming

NEIL CAMERON - Monash University

This introduction to optimisation emphasises the need from both a pure and an applied mathematical point of view, beginning with a chapter on linear algebra and Euclidean geometry. A discussion of convex analysis follows, with exercises at the end of chapters.

Lecture Series 1 0 521 31207 8 Pb. \$29.00 AMS Discount Price \$21.75

Manifolds and Mechanics

ARTHUR JONES, ALISTAIR GRAY and ROBERT HUTTON An easy introduction to the theory of differentiable manifolds. The authors show how this can be used to develop the theory of Langrangian mechanics directly from Newton's laws. Suitable for mathematics or physics students who have taken courses in advanced calculus.

Lecture Series 2 0 521 33650 3 Pb. \$29.00 AMS Discount Price \$21.75

Introduction to the Analysis of Metric Spaces

J. R. GILES - University of Newcastle, New South Wales

An introduction to the analysis of metric and normed linear spaces for undergraduates. The axiomatic method is shown, and its power in exploiting the structure of fundamental analysis, which underlies a variety of applications. Treatment progresses from the concrete to the abstract so metric spaces are studied in detail before general topology is begun.

Lecture Series 3 0 521 335928 7 Pb.\$27.50 AMS Discount Price \$20.60

An Introduction to Mathematical Physiology and Biology

J. MAZUMDAR - Reader in Applied Mathematics, The University of Adelaide The mathematical modelling of biological and physiological phenomena. The discussion includes: diffusion, population, dynamics, autonomous differential equations and the stability of ecosystems, biogeography, pharmacokinetics, biofluid mechanics, cardiac mechanics, the spectral analysis of heart sounds using FFT techniques.

Lecture Series 4 0 521 37901 6 Pb. \$27.50 AMS Discount Price \$20.60

2-Knots and their Groups

J. A. HILLMAN - Macquarie University, New South Wales

The author attacks certain problems in Four-dimensional knot theory, focussing on knots in S4. New work in four-dimensional topology is also applied, to the problem of classifying 2-knots. This is an essential work for low-dimensional topologists and knot theorists.

Lecture Series 5 0 521 37812 5 Pb. \$35.00 AMS Discount Price \$26.25

CAMBRIDGE UNIVERSITY PRESS PO BOX 85 OAKLEIGH VIC.3166

INFORMATION FOR AUTHORS

The Bulletin of the Australian Mathematical Society aims at quick publication of original research in all branches of mathematics. The Editors receive more than twice as much material as can be published in the BULLETIN; many meritorious papers can, therefore, not be accepted. Authors are asked to avoid, as far as possible the use of mathematical symbols in the title. Manuscripts are accepted for review with the understanding that the same work is not concurrently submitted elsewhere.

To ensure speedy publication, editorial decisions on acceptance or otherwise are taken quickly, normally within a month of receipt of the paper. Papers are accepted only after a careful evaluation by the Editor and an Associate Editor or other expert in the field. As even minor revisions are generally not permitted, authors should read carefully all the details listed below. For a paper to be acceptable for publication, not only should it contain new and interesting results but also

(i) the exposition should be clear and attractive;

(ii) the manuscript should be in publishable form, without revision.

Authors should submit three clean, high quality copies to

The Editor, Bulletin of the Australian Mathematical Society, Department of Mathematics, The University of Queensland, Queensland 4072, Australia.

Unless requested at the time, material submitted to the BULLETIN will usually not be returned.

EDITORIAL POLICY

1. References. Arrange references alphabetically (by surname of the first author) and cite them numerically in the text. Ensure the accuracy of the references: authors' names should appear as in the work quoted. Include in the list of references only those works cited, and avoid citing works which are "in preparation" or "submitted". Where the work cited is not readily accessible (for example, a preprint) a photocopy of the title page and relevant sections of the copy that you have used will be of great help to the editors.

2. Abstracts.

- 1. Each paper must include an abstract of not more than 200 words, which should contain a brief but informative summary of the contents of the paper, but no inessential details.
- 2. The abstract should be self-contained, but may refer to the title.
- Specific references (by number) to a section, proposition, equation or bibliographical item should be avoided.

3. Subject Classification. Authors should include in their papers one or more classification numbers, following the 1980 Mathematics Subject Classification (1985 Revision). Details of this scheme can be found in each Annual Index of Mathematical Reviews.

4. Abstracts of Ph.D. Theses. The Bulletin endeavours to publish abstracts of all accepted Australasian Ph.D. theses in mathematics. One restriction, however, is that the abstract must be received by the Editor within 6 months of the degree being approved.

5. Electronic Manuscripts. The Bulletin is produced using A_MS -T_EX. Authors who are able to do so are invited to prepare their manuscripts using A_MS -T_EX. Hard copy only should be submitted for assessment, but if the paper is accepted the author will be asked to send the text on a 5¹/₄ IBM PC compatible diskette. [Typed manuscripts are, of course, still acceptable.]

Bulletin of the Australian Mathematical Society

Perfect pyramids

Ralph Heiner Buchholz	. 353
The gap between subspaces and perturbation of non-semi-Fredholm operators	
Jose A. Alvarez, Teresa Alvarez and Manuel Gonzalez	. 369
Twists of matrix algebras and some subgroups of Brauer groups	
Wenchen Chi	. 377
A fixed point theorem and existence of equilibrium for abstract economies	
Dong Il Rim and Won Kyu Kim	. 385
On improper integrals of products of logarithmic, power and Bessel functions	
M. Aslam Chaudhry and M. Ahmad	. 395
Haar measure and compact right topological groups	
Paul Milnes	. 399
Sharp error bounds for Newton-like methods under weak smoothness assumptions	
Ioannis K. Argyros	. 415
Simultaneous monotone approximation in low-order mean	
Robert Huotari and Salem Sahab	. 423
Positive solutions for a class of semilinear two-point boundary value problems	
Luis Sanchez	. 439
On polygonal products of finitely generated abelian groups	
Goansu Kim	. 453
A new Banach space without the Kadec-Klee property	
G.A. Alexandrov and V.D. Babey	. 463
The expected dimension of a sum of vector subspaces	
David E. Dobbs and Mark J. Lancaster	. 467
On the rate of convergence in the strong law of large numbers for arrays	
Tien-Chung Hu and N.C. Weber	. 479
Lattice of idempotent separating congruences in a P-regular semigroup	
M.K. Sen and A. Seth	. 483
On the monotone convergence of general Newton-like methods	
Ioannis K. Argyros and Ferenc Szidarovszky	. 489
A note on Lie nilpotent group rings	
R.K. Sharma and Vikas Bist	. 503
Lower bounds for the norms of projections with small kernels	
Carlo Franchetti	. 507
Groups with a quotient that contains the original group as a direct factor	
Ron Hirshon and David Meier	513
A remark on the loxodromic mapping conjecture	
Jenny Harrison and Charles Pugh	. 521
	Contraction of the second

ABSTRACTS OF AUSTRALASIAN Ph.D. THESES

On triangles with rational	altitud	les, at	ngle bi	sectors	or me	dians					
Ralph Heiner Buchhol	2				-				NCAS.		525
Representations of classica	d group	os on	the ho	mology	of the	eir spli	t build	lings			
Leanne J. Rylands	44	5.0	+ +		44		ala -			1975	527
Volume 45 Number 3										Ju	ne 1992

https://doi.org/10.1017/S0004972700030240 Published online by Cambridge University Press