

CAMBRIDGE

## Great Titles from Cambridge University Press!

E-books  
Available  
for most  
titles!

### Classical and Multilinear Harmonic Analysis

Camil Muscalu *and* Wilhelm Schlag

*Cambridge Studies in Advanced Mathematics*

This two-volume text in harmonic analysis introduces a wealth of analytical results and techniques. It is largely self-contained and will be useful to graduate students and researchers in both pure and applied analysis. Numerous exercises and problems make the text suitable for self-study and the classroom alike. This first volume starts with classical one-dimensional topics: Fourier series; harmonic functions; Hilbert transform. Then the higher-dimensional Calderón–Zygmund and Littlewood–Paley theories are developed. Probabilistic methods and their applications are discussed, as are applications of harmonic analysis to partial differential equations. The volume concludes with an introduction to the Weyl calculus. The second volume goes beyond the classical to the highly contemporary and focuses on multilinear aspects of harmonic analysis: the bilinear Hilbert transform; Coifman–Meyer theory; Carleson’s resolution of the Lusin conjecture; Calderón’s commutators and the Cauchy integral on Lipschitz curves. The material in this volume has not previously appeared together in book form.



**Volume 1:** \$75.00; Hardback: 978-0-521-88245-3; 387 pp.

**Volume 2:** \$75.00; Hardback: 978-1-107-03182-1; 339 pp.

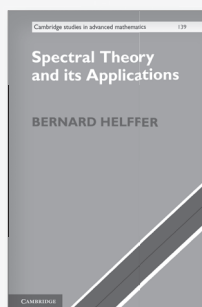
### Spectral Theory and its Applications

Bernard Helffer

Introduces the basic tools in spectral analysis using numerous examples from the Schrödinger operator theory and various branches of physics.

*Cambridge Studies in Advanced Mathematics*

\$65.00; Hardback: 978-1-107-03230-9; 260 pp.



### Quasiconformal Surgery in Holomorphic Dynamics

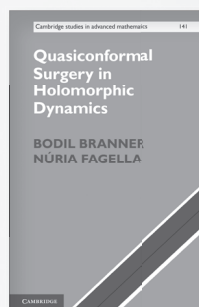
Bodil Branner *and*  
Núria Fagella

A comprehensive introduction to quasiconformal surgery in holomorphic dynamics.

Contains a wide variety of applications and illustrations.

*Cambridge Studies in Advanced Mathematics*

\$99.00; Hardback: 978-1-107-04291-9; 416 pp.



*Prices subject to change.*

[www.cambridge.org/mathematics](http://www.cambridge.org/mathematics)  
800.872.7423

 @cambUP\_maths



**CAMBRIDGE**  
UNIVERSITY PRESS

CAMBRIDGE

JOURNALS

# Journal of the Australian Mathematical Society

Published for  
The Australian Mathematical Society

## Editors-in-Chief

Jonathan Borwein, *University of Newcastle, Australia*

George Willis, *University of Newcastle, Australia*

The *Journal of the Australian Mathematical Society* is the oldest journal of the Society, and is well established in its coverage of all areas of pure mathematics and mathematical statistics. It seeks to publish original high-quality articles of moderate length that will attract wide interest. Papers are carefully reviewed, and those with good introductions explaining the meaning and value of the results are preferred.

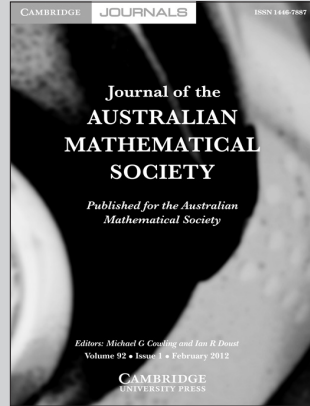
---

## Price information

is available at: <http://journals.cambridge.org/jaz>

## Free email alerts

Keep up-to-date with new material – sign up at  
<http://journals.cambridge.org/jaz-alerts>



## *Journal of the Australian Mathematical Society*

is available online at:  
<http://journals.cambridge.org/jaz>

## To subscribe contact Customer Services

### in Cambridge:

Phone +44 (0)1223 326070

Fax +44 (0)1223 325150

Email [journals@cambridge.org](mailto:journals@cambridge.org)

### in New York:

Phone +1 (845) 353 7500

Fax +1 (845) 353 4141

Email

[subscriptions\\_newyork@cambridge.org](mailto:subscriptions_newyork@cambridge.org)

For free online content visit:  
<http://journals.cambridge.org/jaz>



CAMBRIDGE  
UNIVERSITY PRESS

## INSTRUCTIONS FOR CONTRIBUTORS

### *Editorial Policy*

The journal welcomes high quality contributions on topics closely related to dynamical systems and ergodic theory. Submissions in the field of differential geometry, number theory, operator algebra, differential, topological, symbolic, measurable dynamics and celestial and statistical mechanics are especially welcome. Expository survey papers and reviews of relevant books will be published from time to time.

### *Submission of manuscripts*

Manuscripts should be submitted via the website: <http://mc.manuscriptcentral.com/etds>.

Submission of a paper is taken to imply that it has not been previously published and that it is not being considered for publication elsewhere. Authors of articles published in the journal assign copyright to Cambridge University Press (with certain rights reserved) and you will receive a copyright assignment form for signature on acceptance of your paper.

The journal strongly recommends submission of accepted papers in L<sup>A</sup>T<sub>E</sub>X using the ETDS L<sup>A</sup>T<sub>E</sub>X class file. Papers that use this class file will be processed more efficiently. A L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> file `etds.cls` is available via anonymous ftp from the Cambridge University Press site at <ftp.cup.cam.ac.uk> in the directory `/pub/texarchive/journals/latex/etds-cls/`. In case of difficulties with these files, please contact [etds@sunrise-setting.co.uk](mailto:etds@sunrise-setting.co.uk) or the Journal editorial office at [etds@maths.warwick.ac.uk](mailto:etds@maths.warwick.ac.uk). Alternatively, authors may use ‘article’ style.

On acceptance of a paper, authors should upload the L<sup>A</sup>T<sub>E</sub>X source code including the figures (line figures only) and all author-defined macro and style files, together with a pdf produced using the same file, via the submission site <http://mc.manuscriptcentral.com/etds>.

The publisher reserves the right to typeset any article by conventional means if the author’s T<sub>E</sub>X code presents problems in production.

### *Manuscript*

Papers should be typed with generous margins. The pages must be numbered.

The first page should give the title, the author’s name and institution, and a short abstract intelligible to mathematicians.

The title, while brief, must be informative (e.g. ‘A new proof of the ergodic theorem’, whereas ‘Some applications of a theorem of Birkhoff’ would be useless).

### *Notation*

Avoid abbreviations such as Thm, Prop., Eq., iff. In the text do not use symbols  $\forall$ ,  $\exists$ ,  $\Rightarrow$  and  $\Leftrightarrow$ . Fractions are generally best expressed by a solidus. Complicated exponents like  $\exp\{z^2 \sin \theta / (1 + y^2)\}$  should be shown in this and no other way.

It helps if displayed equations or statements which will be quoted later are numbered in order on the right of their line. They can then be referred to by, for example, ‘from (7)’.

If an author wishes to mark the end of the proof of a theorem, the sign  $\square$  may be used.

Footnotes should be avoided.

### *Figures*

Graphics should be prepared to professional standards, preferably using Postscript or L<sup>A</sup>T<sub>E</sub>X drawing facilities. Each text figure must be numbered as Figure 1, Figure 2, ... and its intended position clearly indicated in the manuscript. Figures should be used sparingly and only when they greatly clarify the exposition. The preferred resolutions for submission of electronic artwork are: halftone images 300 dpi; line tone 600 dpi; bitmap 1200 dpi.

### *Tables*

Tables should be numbered (above the table) as Table 1, Table 2, .... Indicate the position of each in the text as for figures.

### *References*

References should be collected at the end of the paper numbered in alphabetical order of the author’s names or by order of citation. Include in the list of references only those works that are cited. For the style of references please consult recent issues of the journal. A reference to a book should give the title, in italics, and then in roman type the publisher’s name and the place and year of publication:

[4] N. Dunford and J. T. Schwartz. *Linear Operators*. Part I. Wiley, New York, 1958.

A reference to a paper should give in italics the title of the periodical, the number of the volume and year, and the beginning and end pages of the paper. Journal titles should be abbreviated as in *Mathematical Reviews*:

[6] J. E. Littlewood. The ‘pits effect’ for functions in the unit circle. *J. Analyse Math.* **23** (1970), 236–268.

### *Proofs*

Authors receive one pdf proof for correction. Typographical and minor corrections only are permitted at this stage. For papers with more than one author the proofs are sent to the first named author unless the editor receives other instructions. It is important that proofs are corrected and returned promptly.

### *Offprints*

No paper offprints are provided, but the corresponding author will be sent the pdf of the published article. Print offprints may be purchased at extra cost at proof stage.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world’s forests. Please see [www.fsc.org](http://www.fsc.org) for information.

# *Ergodic theory and dynamical systems*

VOLUME 33 PART 6 DECEMBER 2013

## CONTENTS

<i>Aaronson, J.</i> Rational weak mixing in infinite measure spaces	1611
<i>Arbieto, A. and Catalan, T.</i> Hyperbolicity in the volume-preserving scenario	1644
<i>Austin, T.</i> Equidistribution of joinings under off-diagonal polynomial flows of nilpotent Lie groups	1667
<i>Bessa, M. and Rocha, J.</i> Contributions to the geometric and ergodic theory of conservative flows	1709
<i>Calcut, J. S. and Gompf, R. E.</i> Orbit spaces of gradient vector fields	1732
<i>Chen, J., Hu, H. and Pesin, Y.</i> A volume preserving flow with essential coexistence of zero and non-zero Lyapunov exponents	1748
<i>Dirbák, M., Snoha, L. and Špitalský, V.</i> Minimality, transitivity, mixing and topological entropy on spaces with a free interval	1786
<i>Lopez, L.-M. and Narbel, P.</i> Lamination languages	1813
<i>Maruhashi, H.</i> Parameter rigid actions of simply connected nilpotent Lie groups	1864
<i>Pinto-de-Carvalho, S. and Ramírez-Ros, R.</i> Non-persistence of resonant caustics in perturbed elliptic billiards	1876
<i>Stanley, B.</i> Bounded density shifts	1891

**Cambridge Journals Online**  
For further information about this journal  
please go to the journal website at:  
[journals.cambridge.org/ets](http://journals.cambridge.org/ets)



**MIX**  
Paper from  
responsible sources  
**FSC® C007785**

**CAMBRIDGE**  
UNIVERSITY PRESS