



EMS Monographs in Mathematics

Edited by

Ivar Ekeland (Pacific Institute, Vancouver, Canada)

Gerard van der Geer (University of Amsterdam, The Netherlands)

Helmut Hofer (Institute for Advanced Study, Princeton, USA)

Thomas Kappeler (University of Zürich, Switzerland)

EMS Monographs in Mathematics is a book series aimed at mathematicians and scientists. It publishes research monographs and graduate level textbooks from all fields of mathematics. The individual volumes are intended to give a reasonably comprehensive and selfcontained account of their particular subject. They present mathematical results that are new or have not been accessible previously in the literature.

Previously published in this series:

Richard Arratia, A.D. Barbour and Simon Tavaré, *Logarithmic combinatorial structures: a probabilistic approach*

Demetrios Christodoulou, *The Formation of Shocks in 3-Dimensional Fluids*

Sergei Buyalo and Viktor Schroeder, *Elements of Asymptotic Geometry*

Demetrios Christodoulou, *The Formation of Black Holes in General Relativity*

Joachim Krieger
Wilhelm Schlag

Concentration Compactness for Critical Wave Maps



European Mathematical Society

Authors:

Joachim Krieger
EPFL
Bâtiment des Mathématiques
Station 8
1015 Lausanne
Switzerland
joachim.krieger@epfl.ch

Wilhelm Schlag
Department of Mathematics
The University of Chicago
5734 South University Avenue
Chicago, IL 60637
USA
schlag@math.uchicago.edu

2010 Mathematical Subject Classification: 35L05, 35L52, 53Z05

Key words: Energy critical wave equations, wave maps, concentration compactness, Bahouri–Gérard decomposition, Kenig–Merle method, hyperbolic plane

ISBN 978-3-03719-106-4

The Swiss National Library lists this publication in The Swiss Book, the Swiss national bibliography, and the detailed bibliographic data are available on the Internet at <http://www.helvetica.ch>.

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in other ways, and storage in data banks. For any kind of use permission of the copyright owner must be obtained.

© 2012 European Mathematical Society

Contact address:

European Mathematical Society Publishing House
ETH-Zentrum SEW A27
Scheuchzerstrasse 70
CH-8092 Zürich
Switzerland

Phone: +41 (0)44 632 34 36
Email: info@ems-ph.org
Homepage: www.ems-ph.org

Typeset using the authors' T_EX files: C. Eyrich, Berlin
Printing and binding: Beltz Bad Langensalza GmbH, Bad Langensalza, Germany
∞ Printed on acid free paper
9 8 7 6 5 4 3 2 1