

Morningside Lectures in Mathematics
Volume III

Lectures on the Analysis of Nonlinear Partial Differential Equations: Part 3

edited by

Fanghua Lin
Ping Zhang

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Lectures on the Analysis of Nonlinear Partial Differential Equations: Part 3

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MORNINGSIDE LECTURES IN MATHEMATICS

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Preface to the Third Volume

This book is a sequel to the previous volumes *Lectures on the Analysis of Nonlinear Partial Differential Equations*, Vol. I and Vol. II. In this third volume we have collected those lecture notes by N. Burq, J.-Y. Chemin, I. Gallagher, P. Gérard, D. Gérard-Varet, H. Kozono, F. Rousset and J.-C. Saut, et al. We appreciate very much their time and efforts to provide us with these excellent notes. We believe these lecture notes will serve as valuable references on current developments in various research topics in nonlinear partial differential equations (PDE).

The notes collected here came initially from the seminars on “Analysis in Partial Differential Equations”. It was a part of the PDE program (from April to October 2011) at the Academy of Mathematics and Systems Science, Chinese Academy of Sciences (CAS). We would like to take this opportunity to thank the National Center for Mathematics and Interdisciplinary Sciences, Academy of Mathematics and Systems Science as well as the Morningside Center of CAS for the financial support. We thank also several other distinguished visitors who had delivered excellent lectures at the program: Hammadi Abidi, Raphael Danchin, Marius Paicu. We wish their notes would be included in our future volumes.

Finally, we wish to thank Prof. Lo Yang, Prof. Lei Guo, and Prof. Yuefei Wang, for their continuing support over all these years which is essential to the success of this PDE program. We also thank Dr. Guilong Gui for the careful preparation of the Latex files that make up this entire book.

Fanghua Lin in New York

Ping Zhang in Beijing

September, 2012

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