

Hyperbolic Problems and Related Topics

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edited by

Ferruccio Colombini
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PREFACE

On September 10 to 14, 2002, a Scientific Conference on "Hyperbolic Problems and Related Topics" was held at the "Palazzone" in Cortona under the auspices of Istituto Nazionale di Alta Matematica "Francesco Severi" of Roma.

Three courses were given: by Serge Alinhac on blowup at infinity for quasi linear wave equations, by Jean-Michel Bony on microlocal analysis applied to evolution equations, and by Luc Robbiano and Claude Zuily on analytic scattering wave front set and applications to Schrödinger equation.

Moreover, many lectures took place spanning a large variety of topics: the Cauchy problem for strictly or weakly hyperbolic operators and their applications; semilinear, quasilinear or fully nonlinear equations; the Navier-Stokes and Schrödinger equations. Other topics treated were the Sine-Gordon Hierarchy, oscillatory integrals and unique continuation problems, local solvability for differential or pseudodifferential operators, lower bounds of pseudodifferential systems. The most frequently occurring theme was perhaps the use of microlocal analysis, which is now a cornerstone in the study of linear and also nonlinear equations. Various methods related to microlocal analysis are in fact a transversal theme of several articles in this volume, where the texts of the courses and many survey papers are presented, as well as many quite complete expositions.

We are pleased to thank all the invited speakers for their inspiring lectures and contributions to this volume: Serge Alinhac, Jean-Michel Bony, Antonio Bove, Raphaël Danchin, Piero D'Ancona, Daniele Del Santo, Nils Dencker, Shin-ichi Doi, Patrick Gérard, Kunihiko Kajitani, Hideo Kubo, Guy Métivier, M.K.Venkatesha Murthy, Alberto Parmeggiani, Ludovico Pernazza, Michael Reissig, Luc Robbiano, Yoshihiro Shibata, Sergio Spagnolo, Giovanni Tagliabata, Masahiro Takayama, Daniel Tataru, François Trèves, Jean Vaillant, Seichiro Wakabayashi, Claude Zuily.

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