

Preface

The term “Holomorphic Spaces” is short for “Spaces of Holomorphic Functions.” It refers not so much to a branch of mathematics as to a common thread running through much of modern analysis—through functional analysis, operator theory, harmonic analysis, and, of course, complex analysis.

In the fall of 1995 the Mathematical Sciences Research Institute in Berkeley sponsored the program Holomorphic Spaces. Over forty participants came for periods of two weeks to a full semester; an additional forty or so attended a week-long workshop in October. Spaces of holomorphic functions arise in many contexts. The MSRI program focused predominantly on operator-theoretic aspects of the subject. A series of minicourses formed the program’s centerpiece.

This volume consists of expository articles by participants in the program (plus collaborators, in two cases), including several articles based on minicourses. The opening article, by Donald Sarason, gives an overview of several aspects of the subject. The remaining articles, while more specialized, are nevertheless designed in varying degrees to be accessible to the nonexpert. A range of topics is addressed: Bergman spaces (Hakan Hedenmalm, Karl Stroethoff); Hankel operators in various guises (Vladimir Peller, Pamela Gorkin, Scott Saccone, Richard Rochberg); the Dirichlet space (Zhijian Wu); subnormal operators (John B. Conway and Liming Yang); operator models and related areas, especially interpolation problems and systems theory (Nikolai Nikolski and Vasily Vasyunin, Cora Sadosky, Nicholas Young, Alexander Kheifets, Harry Dym, James Rovnyak and coauthors). The concluding article, by Victor Vinnikov, describes an approach to certain commuting families of nonself-adjoint operators in which operator theory is linked with algebraic geometry.

The program committee, in addition to the editors of this volume, consisted of Joseph Ball, Nikolai Nikolski, Mihai Putinar, and Cora Sadosky. On behalf of all participants, the program committee wishes to thank the staff of MSRI, especially Director William Thurston, Associate Director Tsit-Yuen Lam, Alisa Colloms, and Kim Garrett, for their many efforts in our behalf.

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The editors

