Preface

This book is a collection of papers given by invited speakers at the AMS Special Session on Quantum Computation and Information held at the Annual Meeting of the American Mathematical Society in Washington, DC, January 19-21, 2000. This AMS Special Session was held in conjunction with the AMS Short Course on Quantum Computation, January 17-18, 2000, which has been published separately as the AMS PSAPM Volume 58 entitled "Quantum Computation: A Grand Mathematical Challenge for the Twenty-First Century and the Millennium."

This Special Session, together with its accompanying Short Course, was the first time at an AMS meeting that the new and emerging discipline of quantum information science was formally introduced to the AMS community. It is hoped that this event, together with the two books recording this occasion, will act as a catalyst to encourage members of the mathematical community to take advantage of the many mathematical research opportunities arising from the Grand Challenge of Quantum Information Science.

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