

# **COHERENCE AND QUANTUM OPTICS**

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Proceedings of the Third Rochester Conference on  
Coherence and Quantum Optics held at the  
University of Rochester, June 21-23, 1972

Edited by

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## PREFACE

This volume presents the written versions of papers that were delivered at the Third Rochester Conference on Coherence and Quantum Optics, held on the campus of the University of Rochester during the three days of June 21-23, 1972. The Conference was a sequel to two earlier meetings devoted to the same field of modern physics, that were also held in Rochester in 1960 and in 1966.

The scope of the Conference was largely confined to basic problems in the general area of optical coherence and quantum optics, and excluded engineering applications that are well covered by other meetings. Approximately 250 scientists from 9 countries participated, most of whom are active workers in the field. Altogether 72 papers, including 26 invited papers, were presented in 17 sessions. The papers dealt mainly with the subjects of resonant pulse propagation, lasers, quantum electrodynamics and alternative theories, optical coherence, coherence effects in spontaneous emission, light scattering, optical correlation and fluctuation measurements, coherent light interactions and quantum noise. The program was organized by a committee consisting of

N. Bloembergen (Harvard University)  
J.H. Eberly (University of Rochester)  
E.L. Hahn (University of California at Berkeley)  
H. Haken (University of Stuttgart, Germany)  
M. Lax (City College of New York)  
B.J. Thompson (University of Rochester)  
L. Mandel (University of Rochester) } joint secretaries  
E. Wolf (University of Rochester)

We are grateful to the Air Force Office of Scientific Research for sponsoring the Conference jointly with the University of Rochester. We are especially indebted to Dr. Marshall C. Harrington of the Air Force Office of Scientific Research for much valuable help and for the personal interest he took in all matters pertaining to the organization of the meeting. We are also appreciative

of the help rendered by Mr. Don Parry and his staff of the Conference Office of the University of Rochester.

Finally, we wish to express our thanks to Mrs. Ruth Andrus who took most of the real work connected with the technical preparation of this volume on her shoulders. We are also indebted to her and to Mrs. Margaret Barres for the patience and care with which they typed the major part of the manuscript, and to many others of the staff of our Department for much valuable assistance.

Leonard Mandel

Emil Wolf

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University of Rochester  
Rochester, New York

January 1973

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