

Preface

This book on *Perfect and-or Complete Scattering Experiments as a means for Probing Quantum Mechanics on Atomic and Molecular Collisions and Coincidences* is an approach to the theme of its title and also represents a Dedication to Herbert Walther who died on July 22, 2007 in Garching, Germany.

Herbert Walther's achievements in physics will best be described by the many events which have taken place and referred to him in the past. We particularly like to refer to Wolfgang Ketterle's and Gerhard Rempe's Memorial Article in *Physics Today* 79, June 2007; it describes well Herbert Walther's passion for his scientific work, his world-wide recognition, his strength and stimulating teaching ability, and also his way of organizing scientific meetings and conferences. It is clear that Herbert Walther will be remembered by a very large scientific community and, of course, by his immediate family. We, the Authors of this book, are most pleased and feel honored to dedicate this book to Herbert Walther.

Combining the random of data, atomic and molecular scattering physics, using and applying the up-to-date knowledge of the theoretical applications and the experimental methods reveals a wealth of information which even encounters strange and new areas of collision and coincidence physics. As a hint, we mention the field of quantum information which might be seen as the successor of polarization analysis.

We, the Authors of this book—Alexei Grum-Grzhimailo, Bernd Lohmann, and Hans Kleinpoppen—like to thank in the highest way many of our colleagues and friends for their continual supports and advices on the completion of this comprehensive book. We are particularly impressed by the effectiveness and completion of the research involved in the many sections and subsections. Many insights and knowledges on detailed atomic and molecular collision physics will be evident and apprehensive.

We are thankful to Prof. Uwe Becker, and Dr. Burkhard Langer and the GPTA GmbH company, for providing many of the experimental data, and for generous financial support to one of us, BL, which eventually enables for the finalization of this book.

Bernd Lohmann is particularly dearful to Claudia for the very most support while editing this book, and to ongrowing little Tanya watching the miracles happening around her. Both of them for standing tall, and, giving and providing all the necessities needed to complete and finalize this book.

Hans Kleinpoppen is particularly thankful to Mrs. Helga von Kosing for her constant concerns and helpfulness in dealings with editing this book.

During the final procedures of this book, we received the message of the passing away of Prof. Vsevolod V. Balashov, who has been a close collaborator, a colleague, a friend, and a supervisor over the years to all of us. We all, in the scientific community, will certainly miss him. This simply shows the speed of life and science.

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