

# Preface

Nonlinear optics is a multidisciplinary study ranging from fundamental studies to applications. In 1960, the founder of Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences (FJIRSM), Prof. Jia-Xi Lu, initiated and motivated a comprehensive research base in China specializing in structural chemistry and new crystalline materials. After more than 50 years of untiring efforts, FJIRSM is devoted to the fundamental research, development, manufacturing, and marketing of a wide range of nonlinear optical (NLO) crystals. CASTECH, the company founded by FJIRSM in 1988, has become the leading supplier for LBO, BBO, etc. crystals in the world.

We have organized two volumes to summarize some of the recent progress in FJIRSM focusing on structure–property relationships in nonlinear optical crystals. As the second volume, this book is devoted to the IR region with four review-type chapters that were written by five of our faculty members who are the leading scientists in their field. Prof. G.-C. Guo presents the large crystal growth and new mid-infrared second-order NLO pnictide, chalcogenide, and halide materials. Prof. K.-C. Wu discusses the simulation and design of IR second-order NLO metal cluster compounds, Prof. C.-Y. Tu describes recent development of stimulated Raman scattering (SRS) and SRS self-frequency conversion laser crystals, and Profs. L.-M. Wu and X.-T. Wu deal with the exploration of new second-order NLO compounds containing main group elements.

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