

# Preface

Materials with multified coupling properties are an important aspect of modern science and technology with applications in many industrial fields. This book is a collection of the accepted papers concerning key engineering materials and solid state phenomena. Depending on the scale at which they are analyzed and used, we can talk about modern science and technology with applications in engineering and science.

Different parts of the research presented were completely conducted by the authors.

The book is intended for researchers, engineers, designers and students interested in the materials science investigating and their practical use in engineering.

The fundamental aims of the book are the following:

- Expanding design horizons with a thorough, interdisciplinary knowledge of materials science;
- Highlighting an entrie range of possibilities of the use of various chemical materials for different problems encountered in practice;
- Focusing on the importance and significance of taking into account advanced materials and further in the optimization of their properties.

Prof. Alexander N. Danilin

Institute for Problems in Mechanics of RAS