

PREFACE

Dear Reader,

These two volumes contain the articles presented at the Fourth International Conference on Nanomaterials by Severe Plastic Deformation held in Goslar, Germany (18-22 August 2008). These series of NanoSPD conferences started in 1999 in Moscow and continued in a three-year cycle (Vienna, 2002 and Fukuoka, 2005). The NanoSPD conference series have sustained despite a competition from many other conferences and symposia devoted to nanomaterials. This is a convincing demonstration of the attractiveness of the area of bulk ultrafine grained and nanostructured materials produced by severe plastic deformation to a large community of researchers and engineers. As a matter of fact, this community is growing, and the total number of articles in these proceedings (175) is larger than in the proceedings of any previous NanoSPD conference. With authors coming from 27 countries, we have a truly international representation of the worldwide activities in the NanoSPD area.

Significant progress in this field has been made since the last NanoSPD conference. This refers to all aspects of NanoSPD, including our understanding of the mechanisms underlying grain refinement by severe plastic deformation, characterisation of the properties of SPD-processed materials, improvement of processing techniques, and, finally, their applications. All these aspects are reflected in the structure of the book.

As the editors of these proceedings we believe that not only do they give a pretty representative snapshot of the state of the art in this field of research, but they also provide a comprehensive reference resource. In addition, they offer an outlook to possible directions in which this field may be moving in the future and to potential commercialisation pathways. After nearly a decade of the NanoSPD conference series, there is a sense that a 'latent stage', in which the scientific fundamentals have been established, is close to producing major breakthroughs in the implementation of the NanoSPD techniques in the industrial practice. We hope that these proceedings will facilitate this process.

Yuri Estrin
Conference Chairman

Hans-Jürgen Maier
Conference Co-Chairman

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