Materials in Extreme Environments
Materials in Extreme Environments

Symposium held April 20–21, 2006, San Francisco, California, U.S.A.

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PREFACE

Symposium II, “Materials in Extreme Environments,” was held April 20–21 at the 2006 MRS Spring Meeting in San Francisco, California.

This symposium brought together communities investigating the fundamental properties and response of materials in extreme environments such as static and dynamic high pressure, high strain and high strain-rates, high radiation and electromagnetic fields, high and low temperatures, corrosive conditions, environments causing embrittlement, and environments containing atomic oxygen. The symposium attracted scientists from a broad spectrum of fields of research including space science, planetary science, high-pressure research, shock physics, ultrafast science, and energetic materials research. The investigations of the behavior of materials in extreme environments is an extremely active and vibrant field of research because it is now possible to create in the laboratory conditions of pressure, temperature, and radiation such as those found in, for example, planetary interiors and in space. Moreover, advanced simulation methods, coupled with high-performance computing platforms, now afford predictions — on a first-principles basis — of the properties of materials in extreme environments.

We appreciate the support of Lawrence Livermore National Lab, NASA, Alabama A&M University Research Institute, Alabama A&M University, and the Center for Irradiation of Materials at AAMU, Prairie View A&M University, and all others who provided financial funding for the organization of this symposium. Also, thanks to everyone who contributed to the success of this symposium.

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August 2006