Scientific Committee

Materials, Metallurgy and New Energies

Research Work Title

Improving our knowledge about relaxation-property relationships in metallic glasses

Researcher

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Country

The People's Republic of China

Field

Physics

Scientific Affiliation

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Abstract

Metallic glasses (MGs) are amorphous solids formed by cooling a metallic melt fast enough to avoid crystallization. MGs with amorphous disordered atomic structures display unique and intriguing mechanical, chemical, and physical properties which have proven to be of academic and practical interest. As the nature of glass constitutes a longstanding puzzle in condensed matter physics and materials science, our understanding of MGs is also far from sufficient. In this research work, he presented his main accomplishments in addressing fundamental challenges and issues in materials physics related to MGs, and briefly highlighted the findings of his research group at institute of Physics of the Chinese Academy of Science on dynamic relaxation in MGs, concept of flow units in MGs, low-dimensional MGs, rejuvenation of MGs, and relaxation (structure) and property correlations in MGs.

Biography

Prof. Wei Hua WANG is a professor of Applied Physics at the Institute of Physics in Chinese Academy of Sciences (CAS), and leads a research group working on amorphous alloys and materials behaviours under high pressure and the formation of metastable materials under microgravity. He is currently the director of Extreme Physical Conditions Laboratory of CAS, and director of Songshan Lake Materials Laboratory, Dongguan, China. Prof. Wang had conducted research in Germany as an Alexander von Humboldt fellow. He has also visited various world-renowned universities and research institutes as a visiting professor. He is an Academician of CAS, and the World Academy of Science (TWAS) fellow, as well as American Physical Society (APS) fellow.