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Presence of Gold Nanoparticles -- 7 Lanthanide Doped Zinc-Fluorotellurite Glasses -- 8 Optical Sensing Based on Rare-Earth Doped Tellurite Glasses -- 9 Lanthanide Doped Tellurite Glasses for Solar Energy Harvesting -- 10 Tellurite Glasses for Solar Cells Applications -- 11 Development of Bioactive Based Tellurite-Lanthide (Te-Ln) doped Hydroxyapatite Composites for Biomedical Applications -- Index.

Sommario/riassunto

This book provides expert coverage of the physical properties of new non-crystalline solids—tellurite glass smart materials—and the latest applications of these materials, offering insights into innovative applications for radiation shielding, energy harvesting, laser devices, and temperature sensing, among others. In particular, there is a focus on optics, energy conversion technology and laser devices, structural and luminescence properties for laser applications, optothermal and optical properties in the presence of gold nanoparticles, and lanthanide doped zinc oxyfluoro-tellurite glass as a new smart material. Additional chapters address the properties and uses of tellurite glasses in optical sensing, the significance of Near Infrared (NIR) emissions, solar cells, solar energy harvesting, luminescent displays, and the development of bioactive-based tellurite-lanthanide (Te-Ln) doped hydroxyapatite composites for biomedical applications. As the world’s reliance on glass increases, this book serves as a link between the latest findings on tellurite glasses and real-world technological advancement. Academic researchers and industry professionals alike will find this book a useful resource in keeping abreast of recent developments in the field. Focuses on the latest technological advancements in applications of tellurite glasses Highlights new physical properties of tellurite glass containing gold nanoparticles Appeals to a broad audience of academic researchers and industry professionals.