

Smart Materials & Structures

March 20-22, 2017 Orlando, USA

Electrical resistivity change of SeTeAg compositions to thermal and pressure as stress

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To understand the behavior of materials for applications in solid state electronic devices, the materials are to be exposed to different stresses such as thermal, electrical, humidity, optical, nuclear radiations, pressure (static or dynamic) etc. to better understand their structural, morphology, conduction, optical and sensing properties. The $\text{Se}_{85-x}\text{Te}_{15}\text{Ag}_x$ compositions prepared from melt-quench technique were exposed to High Pressure (0-10 GPa) and Temperature (300K-373K). The results depict the change in resistivity with respect to pressure in forward as well as backward pressurization. These results depicts that there is very small change in resistivity with change in pressure and the change in resistivity with respect to pressure follows the same pattern, when the pressure is applied from atmospheric pressure to 10 GPa and vice versa. The results of resistivity change with the variation of Silver in the compositions are also reported in this study. Similar results are observed in case of resistivity change with respect to temperature. Some deviation is observed in the results which are well explained with average coordination number, fermi level change and crystallinity.

Biography

Er. Neeru Chaudhary is an Assistant Professor in Department of Physics, Panjab University, Chandigarh. She got her B.E. in Instrumentation in 1999 from Dr. B.A.M. University, Aurangabad (M.S.) and M.Tech in Instrumentation from University Centre of Instrumentation and Microelectronics, Panjab University Chandigarh in 2001. Currently Er. Neeru Chaudhary's research is focused on studying Electrical and Optical properties of Semiconductor materials to be used in solid state electronic devices. The rapid growth in the field of MEMS and NEMS has led to production of variety of new materials. Hence the study of properties of the materials under different stresses is very important field in Material Science Engineering. She is life member of two national professional bodies; Indian Society of Technical Education (ISTE) and Indian Association of Physics Teachers (IAPT).

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