

INVITED
Photoinduced Ag Diffusion in Tetrahedrally Coordinated Chalcogenide Glasses

M. Mitkova

Dept. of Electrical and Computer Engineering Boise State University, Boise, ID 83725-
2075, USA

Corresponding author e-mail: mariamitkova@boisestate.edu

Photoinduced Ag diffusion in chalcogenide glasses is one of the mostly explored effects in this class of amorphous materials. Its importance rises from the application opportunities which the combination chalcogenide glass - Ag offers. In our work we apply the photodiffusion process to saturate Ge-chalcogenide glasses with Ag in order to produce in this manner solid electrolyte which is the active medium of Programmable Metallization Cell (PMC) devices. Specifics of the photodiffusion process are regarded. Discussion is made related to the dependence of the diffusion process upon the light intensity. Particularly, silver photodiffusion in very Ge rich glasses is considered since in this case a very stressed rigid backbone forms which hosts the diffusion products.

PRIMARY TOPIC: E

SECONDARY TOPIC: S

THIRD TOPIC: A4

PREFERRE FORMAT OF PRESENTATION (ORAL/POSTER): Invited

Corresponding author name: Maria Mitkova

Corresponding author e-mail: mariamitkova@boisestate.edu