

## AsGeSeS 박막의 광학적 조건에 따른 저항변화 특성에 대한 연구

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We have demonstrated new functionalities of Ag-doped chalcogenide glasses based on their capabilities as solid electrolytes. The influence of silver on the properties of the newly formed materials is regarded in terms of diffusion kinetics, and Ag saturation is related to the composition of the hosting material. Silver saturated in chalcogenide glass has been used in the formation of solid electrolyte, which is the active medium in the programmable metallization cell (PMC) device. In this paper, we investigated the optical properties of Ag-doped chalcogenide thin film by He-Ne laser beam exposure, which is concerned with the Ag-doping effect of PMCs before or after annealing. Chalcogenide bulk glass was fabricated by a conventional melt quenching technique. Amorphous chalcogenide and Ag thin films were prepared by e-beam evaporation at a deposition rate of about 4 Å/sec. As a result of resistance change with laser beam exposure, the resistance abruptly dropped from the initial value of 1.4 MΩ to the saturated value of 400 Ω.

