

## Ag 도핑된 $Sb_x(Ge-Se-Te)_{100-x}$ 박막의 개선된 상변화 특성

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Phase-change materials can be cycled by exposure to laser beam, and as a function of the pulse intensity and duration, the laser beam triggers the switching from crystalline to amorphous phase and back. In order to progress better crystallization transition and amorphization long phase-transformation data of phase-change memory (PRAM), we investigated about the effect of Sb doping and Ag ions percolating into Ge-Se-Te phase-change material. Doped Sb concentrations were determined each of 10, 20 and 30 wt%. As the Sb-doping concentration was increased, the resistivity decreased and the crystallization temperature increased. Ionization of Ag was progressed by DPSS laser (532 nm) for 1 hour. The resistivity was more decreased and the crystallization temperature was more increased in case of adding Ag layer under  $Sb_x(Ge-Se-Te)$  thin film. At the every condition of thin films included Ag layer more stable states were indicated compare with just Sb-doped Ge-Se-Te thin films.

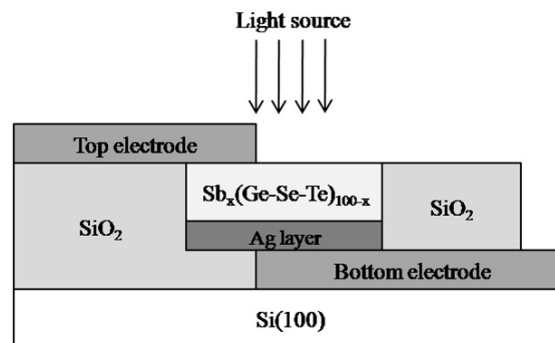


그림 1.

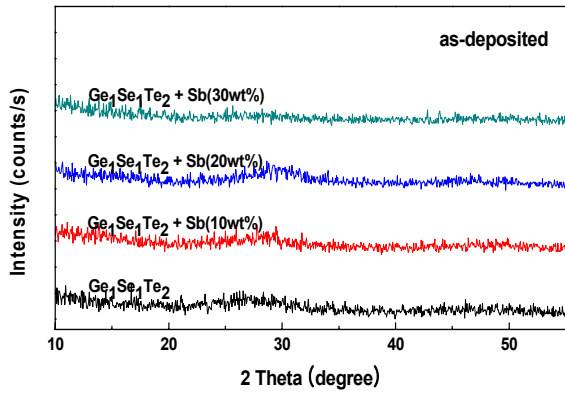


그림 2.

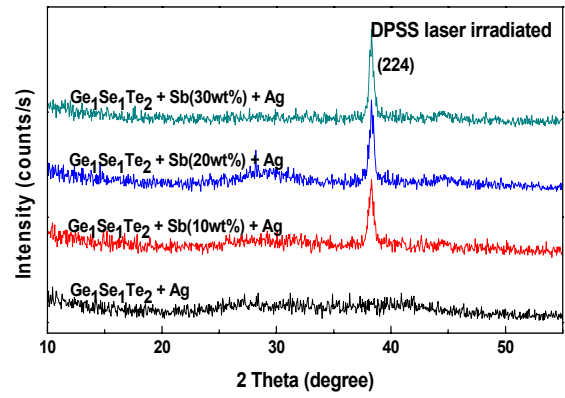


그림 3.

**Keywords:** chalcogenide, PRAM, phase-change memory