

# Nanostructured surfaces

## Influence of e-beam on thermally evaporated thin films Ag-As-S

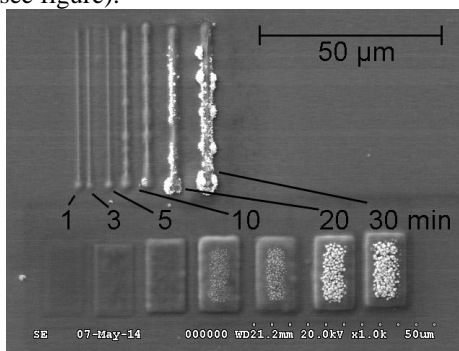
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There are many current and potential applications of Ag-As-S chalcogenide glasses and films, such as solid electrolytes for batteries, electrochemical sensors, photoresists, optical waveguides, optical recording materials, surface patterns and other optical and optoelectronic elements.

Synthesis of the initial Ag-As-S glasses and composites was carried out at 700°C temperature during 24 h with following melt homogenization during 72 h. Ag<sub>3</sub>AsS<sub>3</sub>-As<sub>2</sub>S<sub>3</sub> thin films were prepared by a thermal evaporation at near 1350 °C in vacuum using VU-2M equipment from the bulk materials placed in a tantalum evaporator onto quartz substrates held at a room temperature. Structural properties of thin films under investigations were studied using SEM and AFM. E-beam in SEM was used to influence the surface of the films for 1, 3, 5, 10, 20 and 30 min. The film surface lifts up and Ag-enriched nanostructures form at the illuminated areas due to e-beam (see figure).



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