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Synthesis and Electrical Analysis of Silver Sulfide Thin Films

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This experiment involves depositing a silver film on a glass substrate and transforming it into a silver sulfide film with memristor characteristics using chemical vapor deposition (CVD) techniques. We used scanning electron microscopy (SEM) and X-ray diffraction (XRD) to examine the film's surface growth quality and crystal structure. Measurements of the current-voltage (I-V) characteristics showed that Ag2S films exhibit memristive effects and can form n-Ag2S/p-silicon diodes. Ongoing photoconductivity measurements indicate that the sample demonstrates good performance under specific frequency conditions.

Biography:

I am currently pursuing a graduate degree in the Department of Electronic Engineering at National Changhua University of Education. Our lab focuses on semiconductor materials and devices, optoelectronic automatic measurement systems, solid-state optics, and the simulation of optoelectronic semiconductor device characteristics. My current research is centered on sulfides, with the goal of developing high-performance semiconductor devices through this study.