

Abstract Submitted  
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**Synthesis of Ag<sub>2</sub>O Films using RF Magnetron Sputtering** ERIC KAISER, JOHN BONINI, Department of Physics and Astronomy, Rowan University, WILLIAM FORDHAM, Department of Chemical Engineering, Rowan University, MATTHEW LONG, Department of Physics and Astronomy, Rowan University, JOSEPH NATALE, SEAN REDMOND, ADAM WESTERLAND, Department of Electrical and Computer Engineering, Rowan University, MICHAEL YANAKAS, XIAO HU, SAMUEL LOFLAND, Department of Physics and Astronomy, Rowan University, ROBERT KRCHNAVEK, Department of Electrical and Computer Engineering, Rowan University, JEFFREY HETTINGER, Department of Physics and Astronomy, Rowan University — Silver oxide (Ag<sub>2</sub>O) thin films were successfully grown using reactive RF magnetron sputtering onto SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> substrates at room temperature. Synthesis of these films was achieved in a gaseous mixture of oxygen and argon which was 40% oxygen. X-Ray diffraction tests yielded numerous peak intensities at angles correlating directly to Ag<sub>2</sub>O. Deposition rates were shown to be a significantly greater on Al<sub>2</sub>O<sub>3</sub> in comparison to SiO<sub>2</sub>. Understanding this difference is a point of future investigations. ASTM D3359 adhesion tests as well as four terminal conductivity tests were also performed on the films and will be reported.

Eric Kaiser  
Rowan University

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