

Abstract Submitted  
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**Sputtered Growth and Analysis of Thin Film Bismuth Selenide Topological Insulators** MARGARET BROWN, SAID ELHAMRI, Department of Physics, University of Dayton, Dayton Ohio Air Force Research Lab, Wright-Patterson AFB, Ohio 45433, JOSEPH CORBETT, Air Force Research Lab, Wright-Patterson AFB, Ohio 45433 UES, Inc., 4401 Dayton-Xenia Rd, Dayton, OH 45432, AMBER REED, Air Force Research Lab, Wright-Patterson AFB, Ohio 45433 — Thin films of bismuth selenide, a well-known topological insulator, were grown via direct-current magnetron sputtering. The films were studied using X-ray diffraction, atomic force microscopy, scanning electron microscopy, and scanning tunneling microscopy to analyze how growth conditions impact the resulting surface morphology. Various growth recipes were explored to investigate the transition from atomically smooth films to much more faceted structures, and to provide more insight on fine tuning the surface morphology and the initial layering of this topological insulator.

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