

Abstract Submitted  
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**Molecular beam epitaxy growth of  $\text{SmB}_{6\pm\delta}$  thin films** JASON HOFFMAN, Department of Physics, Harvard University, MUHAMMAD SALEEM, JAMES DAY, DOUG BONN, Department of Physics, University of British Columbia, JENNIFER HOFFMAN, Department of Physics, Harvard University —  $\text{SmB}_6$  has emerged as a leading candidate in the search for exotic topological states generated by strong interactions. The synthesis of epitaxial  $\text{SmB}_6$  thin films presents new avenues to control surface termination, thickness, and strain in this system. In this work, we use molecular beam epitaxy (MBE) to deposit  $\text{SmB}_{6\pm\delta}$  films on insulating (001)-oriented MgO substrates. We use ex-situ x-ray diffraction and magnetotransport measurements to assess the properties of the samples and compare them to previously reported values for single crystals. We also discuss the prospects of using rare-earth substitution to control the correlation strength and alter the topology of the bulk and surface electronic states.

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