Growth of CaIrO\textsubscript{3} and Gd\textsubscript{2}Ir\textsubscript{2}O\textsubscript{7} by MBE\textsuperscript{1} YUEFENG NIE, RAINER HELD, SHOUVIK CHATTERJEE, ERIC MONKMAN, DANIEL SHAI, JOHN HARTER, BULAT BURGANOV, CAROLINA ADAMO, Laboratory of Atomic and Solid State Physics, Department of Physics, Cornell University, Ithaca, NY 14853, USA, DARRELL SCHLOM, Department of Materials Science and Engineering, Cornell University, Ithaca, New York 14853, USA, KYLE SHEN, Laboratory of Atomic and Solid State Physics, Department of Physics, Cornell University, Ithaca, NY 14853, USA — Recently, it was pointed out that the 5d transition metal iridium oxides (iridates) are promising candidates to realize topological insulators, which provide a unique platform in studying the interplay of Coulomb interactions, spin-orbit coupling, and the band topology of solids. We successfully grew epitaxial perovskite CaIrO\textsubscript{3} and pyrochlore Gd\textsubscript{2}Ir\textsubscript{2}O\textsubscript{7} films by reactive molecular-beam epitaxy (MBE). A range of biaxial strains for epitaxial CaIrO\textsubscript{3} films was achieved by growing on different substrates. Angle-resolved photoemission spectroscopy (ARPES) will be used to investigate the electronic structure of the epitaxial CaIrO\textsubscript{3} and Gd\textsubscript{2}Ir\textsubscript{2}O\textsubscript{7} films.

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