Abstract Submitted
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Effect of thickness and strain on the metamagnetic transition temperature of ultra-thin epitaxial FeRh films[1] ALEJANDRO CEBALLOS, CATHERINE BORDEL, Univ of California - Berkeley, OLIVER SCHNEIDER, Julius-Maximilians-Universitat Wurzburg, FRANCES HELLMAN, Univ of California - Berkeley — The antiferromagnetic to ferromagnetic transition in ultra-thin epitaxial FeRh films was studied as a function of film thickness and substrate-induced strain. The lattice mismatch from MgO, STO and KTO was used to provide different strain states on FeRh films with thicknesses spanning 5 to 22 nm. The interplay of these parameters was studied using magnetometry, diffractometry, atomic force microscopy and energy dispersive spectroscopy. Our results provide insight into the growth mechanisms of FeRh and how the onset of the magnetic transition can be controlled via strain engineering.

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