

Abstract Submitted  
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**Growth of fcc(111) Dy multi-height islands on 6H-SiC(0001) graphene**<sup>1</sup> MATTHEW HERSHBERGER, MYRON HUPALO, PATRICIA THIEL, MICHAEL TRINGIDES, Ames Laboratory - U.S. Department of Energy, Iowa State University, NANOSURF TEAM — Graphene based spintronic devices require understanding the growth of magnetic metals. Rare earth metals have large bulk magnetic moments so they are good candidates for such applications, and it is important to identify their growth mode. Dysprosium was deposited on epitaxial graphene, prepared by thermally annealing 6H-SiC(0001). The majority of the grown islands have triangular instead of hexagonal shapes. This is observed both for single-layer islands nucleating at the top of incomplete islands and for fully completed multi-height islands. We analyze the island shape distribution and stacking sequence of successively grown islands to deduce that the Dy islands have fcc(111) structure, and that the triangular shapes result from asymmetric barriers to corner crossing.

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