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Giovanni Leoni* (giovanni@andrew.cmu.edu), Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213. *A continuum model for epitaxial growth with elasticity on vicinal surfaces.*

In this talk we discuss existence of weak solutions of a variational inequality derived from the continuum model introduced in recent papers by Xiang and by Xiang and E to describe the self-organization of terraces and steps driven by misfit elasticity between a film and a substrate in heteroepitaxial growth. This model is obtained as a continuum limit of discrete theories of Duport, Politi, and Villain and of Tersoff, Phang, Zhang, and Lagally. This is joint work with G. Dal Maso and I. Fonseca. (Received September 22, 2012)