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Fang Wan (yip@math.purdue.edu), Department of Mathematics, Purdue University, 150 N. University Street, West Lafayette, IN 47907, and **Nung Kwan Aaron Yip*** (yip@math.purdue.edu), Department of Mathematics, Purdue University, 150 N. University Street, West Lafayette, IN 47907. *A model of crystal growth with corner regularization.*

We investigate a model of two dimensional crystal growth described by a forward-backward parabolic equation. The ill-posed region of the equation describes the motion of corners on the surface. We analyze a fourth order regularization of the equation and show that the dynamical behavior of the regularized corner can be described by a traveling wave solution. The speed of the wave is found by rigorous asymptotic analysis. The interaction between multiple corners will also be presented together with numerical simulations. This is joint work in progress with Fang Wan. (Received January 26, 2010)