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Markus Keel, Department of Mathematics, The University of Minnesota, Minneapolis, MN 55455, and **Shuanglin Shao*** (s1shao@math.ku.edu), Department of Mathematics, The University of Kansas, Lawrence, KS 66045. *A remark on the two dimensional water wave problem with surface tension.*

This is a joint work with Markus Keel. We consider the motion of a periodic interface between air (above) and an irrotational, incompressible, inviscid, infinitely deep body of water (below), with surface tension present. Drawing from the previous work of S. Wu and D. Ambrose-N. Masmoudi, we present a simpler way to reduce the equations of motion to a quasilinear system in variables related to the interface's tangent angle and a quantity related to the difference of tangential velocities of the interface in the Lagrangian and arc-length coordinates. We also establish an a-priori energy inequality for the system. (Received August 24, 2011)