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Yu-Wen Hsu* (yu-wen.hsu@yale.edu), Mathematics Department, Yale University, 10 Hillhouse Avenue, New Haven, CT 06511. *Curve shortening flow and smooth projective planes.*

In this talk, we present a paper in which we use curve shortening flow to solve a problem in geometric topology. We show that any two-dimensional smooth projective plane can be smoothly deformed through a family of smooth projective planes into one which is isomorphic to RP^2 . In addition, we prove that any two smooth embedded curves on RP^2 which intersect transversally at exactly one point, converge to two different geodesics under the flow. (Received September 17, 2013)