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Ryan P Dunning* (rdunning1@stmarytx.edu), One Camino Santa Maria, San Antonio, TX
78228. *Optimally Immersed Planar Curves under Möbius Energy.*

This lecture will outline the existence of optimally immersed planar self-intersecting curves. Because any self-intersecting curve has infinite knot energy, parameter-dependent renormalizations of the Möbius energy remove the singular behavior of the curve. The direct method of the calculus of variations allows for the selection of an optimal immersion in a certain class of curves. (Received September 16, 2010)