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Eric J Rawdon* (ejrawdon@stthomas.edu), Department of Mathematics, University of St. Thomas, St. Paul, MN 55105. *Möbius Energy of smooth knots inscribed in polygons.*

We consider the Möbius Energy and one of its discretizations, the Minimum Distance or MD Energy. Our ultimate goal is to show that MD Energy minimizing polygons converge to a smooth Möbius Energy minimum. Our result here is a critical step in this proof. Namely, we bound the difference between the MD Energy of a polygon and the Möbius Energy of a piecewise- C^2 inscribed curve. (Received August 28, 2006)