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The p-elastic flows of inextensible planar closed curves for $p \in (1, \infty)$

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Building on the work of Blatt, Hopper, and Vorderobermeier (2022) on the existence of geometric flows for the p-elastic energy with p[2,), we investigate how to extend their results to the case p(1,2). In this talk, we focus on the class of inextensible planar closed curves. We establish the existence of global weak solutions to the L^2-gradient flow of the p-elastic energy for all $p \in (1, \infty)$. Further directions, including extensions to open curves and applications to variational problems of curves in sub-Riemannian geometry, will also be discussed. The results presented are based on joint work with Ying-Hsian Tsai.