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Erin Wolf Chambers* (echambe5@slu.edu), Department of Math and Computer Science, 220 N. Grand Ave., St. Louis, MO 63103. *Topological measures of similarity for curves on surfaces.*

The question of how to measure similarity between curves in various settings has received much attention recently, motivated by applications in GIS data analysis, medical imaging, and computer graphics. While geometric measures such as the Hausdorff and Frechet distance have efficient algorithms, efficiently computable measures that take the underlying topology of the space are relatively new and unexplored. Several candidates have been proposed in recent years, but many of these are only tractable in restricted settings, and surprisingly little is known about their practicality. We will survey known results (both geometric and topological) in the first part of the talk, and then focus on new algorithmic results for the topological measures in the second half. The talk will conclude with open questions and possible new directions in this area. (Received September 12, 2013)