1172-31-149 **Pietro Poggi-Corradini***, Kansas State University, Department of Mathematics, Manhattan, KS 66506. *Convergence of the Probabilistic Interpretation of Modulus.*

Given a Jordan domain in the complex plane and two disjoint arcs on its boundary, the modulus of the curve family connecting the two arcs in the domain is related, via a conformal map, to the corresponding modulus for the two vertical sides in a rectangle. In the rectangle, the family of horizontal segments connecting the two vertical sides has the same modulus as the entire connecting family. Pulling these straight segments back via the conformal map yields a family of extremal curves (or horizontal trajectories). We show that these curves can be approximated by some discrete curves arising from an orthodiagonal approximation of the domain. Moreover, we show that these curves carry a natural probability mass function (pmf) deriving from the theory of discrete modulus and that these pmf's converge to the uniform distribution on the set of extremal curves. The key ingredient is an algorithm that, for an embedded planar graph, takes the current flow between two sets of nodes, and produces a unique path decomposition with non-crossing paths. Moreover, some care was taken to adapt recent results for harmonic convergence on orthodiagonal maps, due to Gurel-Gurevich, Jerison, and Nachmias, to our context. This is joint work with Joan Lind and Nathan Albin. (Received August 24, 2021)