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Algorithms for Mumford Curves: Good Starting Data.

Mumford curves are curves over non-Archimedean fields that arise from certain groups, called Schottky groups, acting on the field. To specify a Mumford curve, it suffices to give generators for the corresponding Schottky group. However, starting out with extra data for the curve can make many otherwise inefficient or even impossible calculations doable. We will show how to find "good" generators for Schottky groups to make algorithms more efficient, and how hyperelliptic Mumford curves (arising from Whittaker groups) become more computationally understandable when presented in the right way. (Received September 12, 2013)