

## **JORDAN CURVES WITH THE PIECEWISE GEODESIC PROPERTY**

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We consider Jordan curves passing through a given set of  $n$  points on the Riemann sphere with the property that each curve segment is the hyperbolic geodesic in the complement of the rest of the curve. This family of "piecewise geodesic Jordan curves" is reminiscent of the canonical embeddings of pairs of arcs studied by Bonk and Eremenko. We show that for a given set of points and a homotopy class of Jordan curves relative to these points, there is a unique piecewise geodesic curve that is continuously differentiable. These curves are minimizers of the Loewner energy and give a specific complex projective structure on the  $n$ -punctured sphere with real and parabolic holonomy around the punctures. Similar to a result of Takhtajan-Zograf, we also obtain a new type of accessory parameters and show that they can be expressed as differentials of the Loewner energy.