

A parameterization of non-separating continua with radially convex sets

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Abstract: Given a non-separating continuum K in the complex plane there are various ways to parameterize its complement U . One standard way to do this is using a conformal map ϕ from D^∞ (the complement of the closed unit disk) to U . In this case, the images of radial segments (called conformal external rays) and round circles (called level curves) define a coordinate system on U . Unfortunately, explicit descriptions of the map ϕ only exist for rather special continua K and, hence, it is difficult to obtain explicit results about such parameterizations.

In this talk we will discuss a way of parameterizing the sets U as radially convex sets using explicitly defined metric external rays which mimic conformal external rays and using the `len` length function. We show that the parameterized sets Q preserve some of the characteristics of the original continuum K .