Rotation domains: applications of quasiconformal surgery

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ABSTRACT:

Rotation domains are discs (Siegel discs) or annuli (Herman rings) on which the iterates are conformally conjugate to irrational rigid rotations. It is conjectured that the boundary of all rotation domains of any rational map is a quasicircle. Using quasiconformal surgery, one can prove that this is indeed the case for many classes of functions. In this talk we present some of these surgery constructions and others which prove different properties of these interesting Fatou components.