

Siegel Disks for Complex Henon Maps

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We look at the family of complex Henon maps which have a semi-indifferent fixed point with eigenvalues $w_{\{1\}}$ and $w_{\{2\}}$, where $|w_{\{1\}}| < 1$ and $w_{\{2\}} = \exp(2 \pi i t)$ and t is a Brjuno number. These maps have a Siegel disk and we are interested in the regularity and geometric properties of its boundary. Using hyperbolicity of golden mean renormalization of dissipative Henon-like maps, we show that the boundary of the Siegel disk is a topological circle in certain cases. This is based on joint work with D. Gaidashev and M. Yampolsky.