Julia Sets

Theory and Algorithms

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Definition

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An orbit is bounded if there exists a K such that $|Q_c^{\circ n}(z)| < K$ for all n. Otherwise the orbit is unbounded.

Remark

The points of S^1 were supersensitive. That is, any open ball around $z \in S^1$ has the property that $\bigcup_{n=0}^{\infty} Q_0^{\circ n}(z) = \mathbb{C} \setminus \{p\}$ for at most one point p.

We also defined the Julia Set J_c as the boundary of the filled Julia set K_c. (The filled Julia set is the set of bounded points of Q_c.) We could alternatively define J_c as the closure of the set of repelling points of Q_c (in fact, this definition isn't limited to the quadratic