

Karsten Keller

A note on the structure of quadratic Julia sets

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Abstract: In a series of papers, Bandt and the author have given a symbolic and topological description of locally connected quadratic Julia sets by use of special closed equivalence relations on the circle called Julia equivalences. These equivalence relations reflect the landing behaviour of external rays in the case of local connectivity, and do not apply completely if a Julia set is connected but fails to be locally connected.

However, rational external rays land also in the general case. The present note shows that for a quadratic map which does not possess an irrational indifferent periodic orbit and has a connected Julia set the following holds: The equivalence relation induced by the landing behaviour of rational external rays forms the rational part of a Julia equivalence.

Keywords: quadratic Julia set, Julia equivalence, external ray

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