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American Mathematical Society/Mathematical Reviews

Gauss-Lucas theorem in polynomial dynamics

Using versions of the Gauss-Lucas theorem adapted to dynamics, we prove that for every complex polynomial p of degree $d \geq 2$ the convex hull H_p of the Julia set J_p of p satisfies $p^{-1}(H_p) \subset H_p$. This settles positively a conjecture by Per Alexandersson from 2020. We further discuss the cases where the equality $p^{-1}(H_p) = H_p$ is achieved as well as some examples of behavior of convex hulls of Julia sets of non-polynomial rational maps.

Lucjan Emil Boettcher - the Polish pioneer of holomorphic dynamics

We discuss the life and mathematical achievements of Lucjan Emil Boettcher (1872-1937), the Polish pioneer of holomorphic dynamics. We highlight his role as one of the founders of the discipline.