

Topological equivalence of complex polynomials

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Two complex polynomials $f, g : \mathbb{C}^n \longrightarrow \mathbb{C}$ are *topologically equivalent* if there exists homeomorphisms ϕ, ψ such that $\psi \circ f = g \circ \phi$.

In a first part we give the classification, up to topological equivalence, of complex polynomials from \mathbb{C}^2 to \mathbb{C} , with only one irregular fiber.

In a second part we state a global version of Lê-Ramanujam μ -constant theorem: for a family of polynomials $f_t : \mathbb{C}^n \longrightarrow \mathbb{C}$, $t \in [0, 1]$, we suppose that some numerical invariants are constant (the affine Milnor number, the Milnor number at infinity, the number of critical values,...), then the polynomials f_0 and f_1 are topologically equivalent.