

SEMINARIO DE ANÁLISIS COMPLEJO (COMPLEX ANALYSIS SEMINAR)

On the isolated singularities of the inverse of an entire function

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Abstract:

The isolated singularities of the inverse function $f^{-1}(w)$ of an analytic function $w = f(z)$ can be algebraic or transcendental and the behaviour of the inverse near them is well-known. We shall consider non-isolated singularities, first of all, we shall make precise the concept of a non-isolated singularity and present some possible cases of it. We shall study the behaviour of the function near them and finally we shall relate the existence of asymptotic values for an entire function $w = f(z)$ with the transcendental singularities of the inverse $f^{-1}(w)$.