

Mark Agranovsky, Bar-Ilan University

Title: CR-foliations and Morera type theorems for manifolds with attached analytic discs

Abstract: We prove characterization of analytic and CR functions on manifolds in \mathbb{C}^n in terms of analytic extensions into analytic discs glued up to the manifolds by their boundaries.

In particular, we answer, in smooth category, two old questions known since 70's: -on testing analyticity on one-parameter families of Jordan planar curves (the strip-problem) -and on characterization of boundary values of holomorphic functions in \mathbb{C}^n by analytic extendibility into complex lines tangent to a given real hypersurface (known as Globevnik-Stout conjecture, formulated in their article of 1991).

These and close problems are reduced to a question about propagation of degeneracy of partially holomorphic foliations. It is interesting that the problems turned out to be of rather topological nature and the argument principle is behind them.