

Local continuous extension of proper holomorphic maps: low-regularity and infinite-type boundaries

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We shall discuss a couple of results on local continuous extension of proper holomorphic maps $F : D \longrightarrow \Omega$, $D, \Omega \subsetneq \mathbb{C}^n$, making local assumptions on their boundaries ∂D and $\partial \Omega$. The first result allows us to have much lower regularity, for the patches of $\partial D, \partial \Omega$ that are relevant, than in earlier results in the literature. The second result is in the spirit of a result by Forstnerič–Rosay. However, our assumptions allow $\partial \Omega$ to contain boundary points of infinite type.

In this talk, we will first discuss the motivations for the above results. We shall also discuss the key ideas behind the proofs of these results.