PAUL GAUTHIER, Université de Montréal
Asymptotic first boundary value problem for holomorphic functions of several complex variables

Theorem (with Mohammad Shirazi, McGill University).
Let M be a complex manifold endowed with a distance d and a regular Borel measure μ, such that non-empty open sets have positive measure. Let $U \subset M$ be an arbitrary Stein domain and $\psi \in \mathcal{M}(\partial U)$ an arbitrary Borel measurable function on the boundary ∂U, whose restriction to some closed subset $S \subset \partial U$ is continuous. Then, for an arbitrary regular σ-finite Borel measure ν on ∂U, there exists a holomorphic function f on U, such that, for ν-almost every $p \in \partial U$, and for every $p \in S$, $f(x) \to \psi(p)$, as $x \to p$ outside a set of μ-density 0 at p relative to U.