

Injectivity and surjectivity of the asymptotic Borel map in classes with log-convex constraints

Javier Sanz

Valladolid University, Spain

We will comment on classical and recent results on the injectivity and surjectivity of the Borel map in Carleman-Roumieu ultraholomorphic classes in sectors of the Riemann surface of the logarithm (in other words, classes of holomorphic functions admitting an asymptotic expansion at the vertex of the sector), with constraints given by a logarithmically convex sequence of positive real numbers. In many of these statements the opening of the region, and one of two suitable growth indices for log-convex sequences, will play a role. We will highlight some situations where these two indices agree, respectively are distinct.

Partially joint work with J. Jiménez-Garrido (University of Valladolid) and G. Schindl (University of Vienna).