Javier Sanz (joint work with J. Jiménez-Garrido, I. Miguel-Cantero and G. Schindl)
University of Valladolid, SPAIN
Email: javier.sanz.gil@uva.es

Optimal flat funtions and local right inverses for the asymptotic Borel map in ultraholomorphic classes

We prove the existence of optimal flat functions in Carleman-Roumieu ultraholomorphic classes, defined by general strongly nonquasianalytic weight sequences and in sectors of suitably restricted opening. The key fact is the interpretation of a condition of M. Langenbruch, recently recovered by D. N. Nenning, A. Rainer and G. Schindl in a mixed setting, in terms of a property of regular variation related to the classical conditions (M3) of H. Komatsu.

If the defining sequence is regular in the sense of Dyn'kin, from these optimal flat functions one may obtain local right inverses for the asymptotic Borel map, that interpolate in Banach spaces of asymptotic power series with a control of the type. Finally, we discuss some examples (including the well-known q-Gevrey case) where such optimal flat functions can be obtained in a more explicit way.