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Aula T2, Facultat de Matemàtiques, U.B.

Hartogs type holomorphic extensions

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ABSTRACT: In the talk there will be given a short review of holomorphic extension problems starting with the famous Hartogs theorem (1906), via Severi-Kneser-Fichera-Martinelli theorems, up to some recent results on global holomorphic extensions for unbounded domains obtained together with Al Boggess (Texas A& M Univ.) and Zbigniew Slodkowski (Univ. Illinois at Chicago). The classical Hartogs theorem solves the extension problem for bounded domains in \mathbb{C}^n and clearly shows the difference between one and many-variables cases. The theorem is considered as an informal beginning of Complex Analysis in Several Variables. Surprisingly, there are not many extension-type results for unbounded domains, especially in \mathbb{C}^n , even though the problem is highly non-trivial and important not only in Complex Analysis. In the talk, several examples and some results will be presented from the "work in progress" with the collaborators.