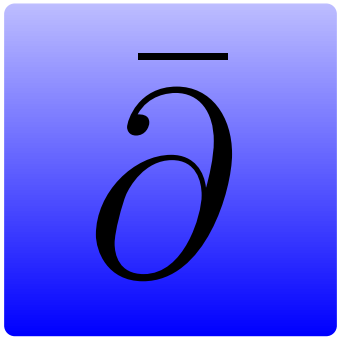

The biannual Brno-Wien meeting in Complex Analysis

Masaryk University

Brno

14.1.2009

11:00–11:50 Fritz Haslinger

Compactness estimates for the $\overline{\partial}$-Neumann problem in weighted L^2 spaces

We discuss compactness of the $\overline{\partial}$- Neumann operator and of the canonical solution operator for $\overline{\partial}$ in the setting of weighted L^2-spaces on $\mathbb{C}^n$. For this purpose we use a version of the Rellich - Lemma for weighted Sobolev spaces. In this situation the bahavior of the Laplacian as well as of the gradient of the weight function at infinity is of importance.

11:55–12:45 Robert Juhlin

A technique for proving convergence of formal power series using estimates

In this talk, I will present a technique for proving convergence of formal power series satisfying certain systems of equations. This is done by using a type of modified Cauchy estimates to estimate the coefficients. The technique can be used to prove convergence of Normal forms for some classes of real-analytic hypersurfaces in $\mathbb{C}^2$.

13:45–14:35 Klaus Gansberger

The weighted $\overline{\partial}$-Neumann problem on unbounded pseudoconvex domains

I will explain how methods used for bounded domains can be extended to treat unbounded pseudoconvex domains and give a sufficient condition for boundedness of the weighted $\overline{\partial}$-Neumann operator in terms of the weight function. I will also present a condition for compactness which is the analogon of Property (P) introduced by Catlin and discuss under which additional assumptions on the boundary this can be weakened.

14:40–15:30 Martin Kolar

The Catlin multitype and local equivalence

We will consider the local equivalence problem for hypersurfaces of finite Catlin Multitype. The main tool is provided by a generalized Chern-Moser operator.

16:00 Tour of Villa Tugendhat (english)

> When I let these areas and everything found within them affect me as a whole, then I see it quite clearly: That is beauty - this is truth. Truth - we can have various opinions on it, but anybody who sees these areas will realise sooner or later that this is a real work of art.
>
> Fritz Tugendhat, 1931