Analysis Seminar

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Convergent normal forms and canonical connections for degenerate real hypersurfaces

Abstract:
In their seminal work, S.S. Chern and J. Moser constructed normal forms for real-analytic hypersurfaces with non-degenerate Levi form. More recently, considerable work has been done to construct normal forms in degenerate cases at the level of formal power series. However, apart from that work of Chern-Moser, no other cases have been known where the normal form converges. The fundamental obstacle to the convergence being the non-uniformity of the underlying CR geometry.

In a joint work with Ilya Kossovsky, we have constructed such convergent normal forms by constructing canonical connections along natural stratifications of the CR structure.

Host: Peter Ebenfelt

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