Varieties and normalization of partially integrable analytic differential systems

Xiang Zhang

(in collaboration with Zengji Du (Jiangsu Normal University) and Valery Romanovski (University of Maribor))

Department of Mathematics, Shanghai Jiaotong University, Shanghai, P. R. China

In this talk we report our recent results on the varieties and normalization of partially integrable analytic differential systems $\dot{x} = Ax + f(x)$ in a neighborhood of the origin in $\mathbb{F}^n$ with $\mathbb{F} = \mathbb{R}$ or $\mathbb{C}$. First we introduce our results on varieties of their partial integrability in a neighborhood of the origin. The second is on the existence of analytic normalizations of partially integrable analytic differential systems.