

1154-53-616

Igor Zelenko* (zelenko@math.tamu.edu), Department of Mathematics, Mailstop 3368, Texas A&M University, College Station, TX 77843-3368, and **Curtis Wade Porter**. *2-nondegenerate CR structures of hypersurface type: bigraded Tanaka prolongation for canonical absolute parallelism and maximally symmetric models.*

The talk is devoted to the local geometry of 2-nondegenerate CR manifolds M of hypersurface type. An absolute parallelism for such structures was recently constructed independently by Isaev-Zaitsev, Medori-Spiro, and Pocchiola in the minimal possible dimension ($\dim M = 5$), and for $\dim M = 7$ in certain cases by C. Porter. We develop a bigraded analog of the Tanaka prolongation procedure to construct a canonical absolute parallelism for these CR structures in arbitrary (odd) dimension with Levi kernel of arbitrary admissible dimension. In the talk we will describe the main notions and constructions of this bigraded version Tanaka theory. We also describe the hypersurface realization of maximally symmetric models for such structures with one dimensional Levi kernel in arbitrary odd dimensions using the relation between CR-structures and systems of PDEs via Segre varieties. (Received September 08, 2019)