THE 2−JET DETERMINATION CHERN-MOSER THEOREM IN HIGHER CODIMENSION: A NEW PHENOMENON

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ABSTRACT. Let M be a real-analytic submanifold of $\mathbb{C}^N$ of codimension d. Consider the set of germs of biholomorphisms F at a point $p \in M$ such that $F(M) \subset M$. By the work of Cartan, Tanaka, Chern and Moser, if $d = 1$, every such F is uniquely determined by its first and second derivatives at p provided that its Levi form at p is non-degenerate. In this talk, we discuss some recent developments on the generalization of this theorem to higher codimension, which show in particular that it fails for $d > 3$.

This talk involves joint works with Florian Bertrand, Léa Blanc-Centi, Jan Gregorovic and Martin Kolar.