

On a smooth reflection principle II

(joint work with B. Lamel)

Stefan Fördös

University of Vienna

ABSTRACT. The main topic of my talk will be the reflection principle for mappings between smooth CR manifolds, i.e. the regularity problem for CR mappings between two smooth (abstract) CR manifolds. First I am going to present a brief historic survey of this problem and known partial results especially in the real-analytic case. I will also explain why the methods that were used in the real-analytic setup are of no help in the general smooth abstract category. Further I give a rather elementary introduction into microlocal analysis and especially the notion of the wavefront set before I begin with the presentation of joint work with Bernhard Lamel, namely the first known positive regularity result in the complete abstract setting. More precisely, we show that for all abstract CR manifold M there is a space of smooth multipliers λ attached to M and for every infinitesimal automorphism (with distributional coefficients) X the product λX is smooth. Then, using a division theorem, we conclude in special cases that also X has to be smooth. Finally, I present an example that shows that the previous presented results are sharp.

Time: Tuesday, April 5, 2016, 13:15 - 14:45

Place: Seminar room 9, 2nd floor, Oskar-Morgenstern-Platz 1, 1090 Vienna
Faculty of Mathematics, University of Vienna