

COMPLEX ANALYSIS SEMINAR

EQUIVALENCES OF HIGHER CODIMENSIONAL CR STRUCTURES: A MERGING OF MOVING FRAMES AND SOME ALGEBRAIC GEOMETRY

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ABSTRACT: The best examples of CR structures are real submanifolds of a complex space. The natural notion of equivalence captures the idea of when one of these real submanifolds can be mapped to another under a biholomorphic change of coordinates. CR structures are of interest in several complex variables, partial differential equations and differential geometry. The behavior of CR structures depends heavily on their codimension (which for real submanifolds of a complex space just means the real codimension of the manifold with respect to the ambient complex space). We will see that the equivalence problem for CR structures of codimension three or greater has a particularly rich structure. In particular, to solve the equivalence problem for CR structures of codimension three or greater, we will need to use two big machines: geometric invariant theory of algebraic geometry and Cartan's method of moving frames. This talk will provide an introduction to CR geometry, with an emphasis on higher codimensional CR equivalence problems. We will close with a number of open questions.

Date: Thursday, April 4, 2013

Time: 4pm-5pm

Place: UH 4100A

Webpage: <http://math.utoledo.edu/~ssahuto/complexseminar.html>