



GEOMETRY SEMINAR

Extension of local biholomorphic maps respecting homogeneous submanifolds in complex flag manifolds

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Abstract

Fubini studied local equivalence problems of complex hypersurfaces in the complex projective space and claimed that any local biholomorphic map between complex hypersurfaces of the complex projective space can be extended to a global biholomorphism if it preserves the second fundamental form and the Fubini's cubic form. Later on, Cartan ($n = 2$) and Jensen-Musso (in general) completed the proof by using moving frame methods. After interpreting the result as an extension theorem of local biholomorphic maps preserving the tangent directions of lines on them, Hwang-Mok proved the Cartan-Fubini type extension theorem for families of minimal rational curves on uniruled projective manifolds.

In this talk, instead of families of lines, we will consider families of homogeneous submanifolds on complex flag manifolds and will prove an extension theorem of local biholomorphic maps respecting such families. As an application, we will get an Alexander type extension theorem of local biholomorphic maps between real group orbits in complex flag manifolds. This is joint work with Sui-Chung Ng.

Date: September 5, 2017 (Tuesday)

Time: 4:00 – 5:00pm

Venue: Room 210, Run Run Shaw Bldg., HKU