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Mathematics Colloquium

Partially hyperbolic diffeomorphisms in dimension 3

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Abstract

These diffeomorphisms exhibit weaker forms of hyperbolicity and are extremely common. Such a diffeomorphism f has stable, unstable and center bundles invariant under df. This is a very intense area of research currently. Some of the people involved are Wilkinson, Burns, Rodrigues-Hertz, Rodrigues-Hertz, Ures, Potrie, Barthelme, Frankel and the speaker. We review basic examples, conjectures. We also talk about dynamical coherence - this means that there are two dimensional f-invariant foliations which are tangent to the center stable and center unstable bundles. Unlike the strictly hyperbolic case, (no center direction), there are non integrable examples. We will also talk about some recent counterexamples of a main conjecture.

Wednesday, 25 April 2018, 4pm

Smith Hall 204

Tea and refreshments will be served at 3:45pm.