

Smooth Models for Fibered Partially Hyperbolic Systems

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We will discuss the existence and construction of smooth models for certain fibered partially hyperbolic systems. Fibered partially hyperbolic systems are partially hyperbolic diffeomorphisms that have an integrable center bundle, tangent to a continuous invariant fibration by invariant submanifolds. We show that if the homological minimum expansion on the base dominates the distortion on the fibers, a fibered partially hyperbolic system over a nilmanifold is leaf-conjugate to a smooth model that descends to a hyperbolic nilmanifold automorphism on the base. (This is joint work with Jonathan DeWitt and Oliver Wang).

In Special Session 22 on Partially Hyperbolic Dynamical Systems: Ergodic and Topological Aspects at the Mathematical Congress of the Americas 2025.