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Leaf-wise coisotropic intersections

The Lagrangian intersection property is unquestionably one of the most fundamental results in symplectic topology. Namely, a Lagrangian submanifold necessarily intersects its image under a Hamiltonian diffeomorphism that is in some sense close to the identity.

It is natural to consider generalizations of the Lagrangian intersection property to coisotropic submanifolds. Among several different versions of the coisotropic intersection property is the question of leaf-wise intersections. In this talk we will discuss our recent work on this problem which is also connected to some problems in geometric mechanics and mathematical physics.