1151-42-196   **Alex Iosevich**, **Bochen Liu** and **Yakun Xi*** (`yxi4@math.rochester.edu`). *Distance sets on Riemannian surfaces and microlocal decoupling inequalities.*

Abstract: In this talk, we discuss the generalization of the Falconer distance problem to the Riemannian setting. In particular, we extend the recent result of Guth-Iosevich-Ou-Wang for the distance set in the plane to general Riemannian surfaces. The key new ingredient is a family of refined decoupling inequalities associated to phase functions that satisfy Carleson-Sj´olin condition. This is a joint work with Iosevich and Liu. (Received August 18, 2019)