

## **MARKED LENGTH SPECTRUM RIGIDITY IN GROUPS WITH CONTRACTING ELEMENTS**

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**Time: Fri, Dec. 6th, 16:00-17:00 PM**

**Venue: SCMS 102**

**Abstract:** This talk presents a study of the well-known marked length spectrum rigidity problem in the coarse-geometric setting.

For any two (possibly non-proper) group actions  $G \curvearrowright X_1$  and  $G \curvearrowright X_2$  with contracting property, we prove that if the two actions have the same marked length spectrum, then the orbit map  $G \cdot o_1$  to  $G \cdot o_2$  must be a rough isometry. In addition, we prove a finer marked length spectrum rigidity from confined subgroups and further, geometrically dense subgroups. Our proof is based on the Extension Lemma and uses purely elementary metric geometry. This is joint work with Xiaoyu Xu and Wenyuan Yang.