**ROMAIN SPECIEL**, Stanford University

*Geometry from eigenfunction triple products I*

A manifold is uniquely determined by its spectrum along with the integrals of eigenfunction triple products. In this two-part talk, joint with Josef Greilhuber, we show that one can detect real analyticity and flatness of a Riemannian metric from this data. This first talk presents some background and context, then explains how we may employ Egorov's theorem to convert assumptions on the integrals of eigenfunction triple products into structural properties of eigenfunctions along geodesics.