
VENKATESHWARAN KRISHNAN, TIFR Centre for Applicable Mathematics

Higher order Reshetnyak formulas for the ray transform of symmetric tensor fields in Sobolev spaces

The ray transform of a symmetric m -tensor field is defined as integrals of the tensor field along lines in Euclidean space. In this talk, we derive higher order Reshetnyak formulas for the ray transform of symmetric fields in Sobolev spaces. These are Plancherel-type isometry relations involving certain weighted Sobolev norms of a tensor field and that of its ray transform. This is joint work with Vladimir Sharafutdinov.