

Unique continuation results for certain generalized ray transforms of symmetric tensor fields

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Abstract: We study unique continuation results for ray transform of symmetric tensor fields. We show that if the ray transform of a symmetric tensor field f vanishes along all lines passing through a non-empty open set and if the Saint-Venant operator acting on f vanishes on the same open set, then f is potential. This generalizes two recent works of Ilmavirta and Monkkinen who proved such unique continuation results for the ray transform of functions and vector fields/1-forms. In the second half of the talk, we prove analogous unique continuation results for momentum ray and transverse ray transforms. This is joint work with Divyansh Agrawal and Suman Kumar Sahoo.