Dr. Rohit Kumar Mishra
University of Texas At Arlington
Friday, October 18, 2019
3:30pm – 4:30pm
311 Pickard Hall

Full Reconstruction of a Vector Field from Restricted Doppler and First Integral Moment Transforms in R^n

Abstract: We show that a vector field in R^n can be reconstructed uniquely from the knowledge of restricted Doppler and first integral moment transforms. The line complex we consider consists of all lines passing through a fixed curve in R^n. The question of reconstruction of a symmetric m-tensor field from the knowledge of the first (m+1) integral moments was posed by Sharafutdinov in his book (pp.78), “Integral Geometry of Tensor Fields”. In this talk, we provide an answer to Sharafutdinov’s question for the case of vector fields from restricted data comprising of the first 2-integral moment transforms.

Short Bio: Dr. Rohit Kumar Mishra received his Ph.D. in 2017 under the guidance of Dr. Venky P. Krishnan at TIFR Centre for Applicable Mathematics, Bangalore, India. His primary research interests are in the field of inverse problems related to integral geometry, partial differential equations, microlocal analysis and medical imaging. Before joining UTA, he was a postdoctoral scholar at the University of California, Santa Cruz from August 2017 to July 2019.

Refreshments before the talk and socializing following the talk
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