

INVERSE PROBLEMS FOR SOME NONLINEAR PDES WITH PARTIAL DATA

Speaker: Ting Zhou
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Venue: Zoom: 618-038-6257, Password: SCMS

Abstract: In this talk, I will demonstrate the higher order linearization approach to solve several inverse boundary value problems for nonlinear PDEs, modeling for example nonlinear optics, including nonlinear magnetic Schrodinger equation and time-dependent Schrodinger equation. Considering partial data problems, the problem will be reduced to solving for the coefficient functions from their integrals against multiple linear solutions that vanish on part of the boundary. We will focus our discussion on choices of linear solutions and some microlocal analysis tools and ideas in proving injectivity of the coefficient function from its integral transforms such as the FBI transform.