



Partial Differential Equations and Applied Mathematics Seminar

A numerical method for the inverse tomographic problem with incomplete data: the PDE approach

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A new numerical method for X-ray tomography for a specific case of incomplete Radon data is proposed. Potential applications are in checking out bulky luggage in airports. This method is based on the analysis of the transport PDE governing the X-ray tomography rather than on the conventional integral formulation. The quasi-reversibility method is applied. Convergence analysis is performed using a new Carleman estimate. Numerical results are presented and compared with the inversion of the Radon transform using the well-known filtered back projection algorithm.

Thursday, November 8th, 2018 at 2:00 PM.
ACADEMIC BUILDING, Room 217.

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