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Topic of the presentation:

Geometric inverse problems in time-fractional subdiffusion

Abstract:

We consider two types of geometric inverse problems associated with time-fractional subdiffusion: inverse source support and interface reconstruction of a discontinuous subdiffusion coefficient. We show existence, perform shape sensitivity analysis and use shape gradients to develop numerical algorithms allowing shape and topological changes. Numerical results are presented to demonstrate effectiveness of the algorithms. This is a joint work with Xindi Hu and Wei Fan.