

Carleman-based reconstruction algorithm on a wave network

Tuesday, October 17, 2023 4:30 PM (1 hour)

In this presentation, we will be interested in an inverse problem set on a tree shaped network where each edge behaves according to the wave equation with potential, external nodes have Dirichlet boundary conditions and internal nodes follow the Kirchoff law. The main goal is the reconstruction of the potential everywhere on the network, from the Neumann boundary measurements at all but one external vertices. Leveraging from the Lipschitz stability of this inverse problem, we aim at providing an efficient reconstruction algorithm based on the use of an appropriate global Carleman estimate. This is a joint work with Lucie Baudouin, Maya de Buhan and Emmanuelle Crépeau.

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