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Form Methods for Evolutionary Problems: Applications to the Dirichlet-to-Neumann Operator and Degenerate Equations

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Abstract

Form methods provide a highly efficient framework for solving evolutionary problems in Hilbert spaces. This presentation offers an introduction to this theory, drawing on the foundational works of Wolfgang Arendt, Omar El-Mennaoui, and A.F.M. (Tom) ter Elst. This modern setting is particularly well-suited for analyzing the Dirichlet-to-Neumann operator and handling degenerate equations. The session will begin with an overview of elliptic forms, followed by several illustrative examples demonstrating the versatility of the form-based approach.

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