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A Banach-spaces based approach for dual-mixed formulations: Applications to magneto-hydrodynamics.

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Abstract

In this presentation, we introduce a Banach-spaces based approach to study dual-mixed formulations of nonlinear problems. We provide an overview of the current state of the art and recent advancements in this area, focusing on solving coupled nonlinear systems in mixed form. Specifically, we apply this approach to analyze a mixed finite element method for the stationary incompressible magnetohydrodynamic problem, providing an exactly divergence-free approximation of the magnetic field.

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