WELL-POSEDNESS RESULTS FOR A FAMILY OF EVOLUTION DEGENERATE MIXED PROBLEMS

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ABSTRACT. The aim of this talk is to show an abstract framework to analyze a family of linear degenerate parabolic mixed equations. We combine the theory for the degenerate parabolic equations [1] with the classical Babuska-Brezzy theory to deduce necessary and sufficient conditions to prove the well-posedness of the problem. Finally, we show two recent mixed finite element formulations which arise from electromagnetic applications [2, 3] and deduce their well-posedness by using the developed abstract theory. Other studies on mixed parabolic problems can be found in [4, 5].

Keywords: Well-posedness, parabolic degenerate equations, mixed problems, eddy current model.

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