MATHEMATICAL ANALYSIS OF MODELS DESCRIBING THE MOTION OF IMPLICITLY CONSTITUED MATERIALS

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Abstract

We focus on certain models of fluids and solids described by implicit constitutive theory and show how they can be treated in the framework of the maximal monotone graph setting. Then we give an overwiev of available existence and also further qualitative properties results to the corresponding PDEs and show where are the limitation of the used tools. In particular, we focus on the prototype models like Bingham fluids, Herschly-Bulkley fluids, Kelvin-Voight fluids, Limiting-strain elastic solids, etc.