



SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

Generalized Buckley-Leverett System

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Resumo: We show the existence of solution to a new mathematical model of the Buckley- Leverett system, describing two-phase flows in porous media. To show the solvability result, we consider an approximate parabolic-elliptic system, which the approximate solutions do not have any type of standard BV estimates. Therefore, we justify the limit transition using a kinetic method. More precisely, we use the transport property of the derived linear (kinetic) transport equation, and the strong traces results proved for the kinetic function. Joint work with Nikolai Chemetov.