

# Hard congestion limit of the $p$ -system in the BV setting

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## Abstract

In this talk, I will present a justification of the transition from a compressible (inviscid) system with singular pressure, modeling short range repulsive forces, towards a mixed compressible-incompressible system modeling partially congested dynamics. These systems may be used for the modeling of mixtures, of collective motions or partially free surface flows where a maximal constraint on the density or the height of the flow has to be taken into account. From the mathematical standpoint, I will develop an analysis for small perturbations of a reference profile in the framework of BV solutions. This is a joint work with Fabio Ancona (Università di Padova) and Roberta Bianchini (CNR, Roma).