Networks of hyperbolic balance laws

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Abstract

Models with networks of hyperbolic balance laws are currently used for several applications, e.g. river flows, the human circulatory system, gas pipelines or road networks. These motivations triggered a constant development of analytical results as well as numerical methods. This talk aims to provide an overview of the developments in the past years with a focus on the construction of suitable numerical schemes. Additionally a possible extension to non-conservative equations will discussed.