**EMMANUEL LORIN**,

*Neural network-based discontinuity tracking for hyperbolic conservation laws*

We develop neural network-based algorithms for accurately solving weak solutions to hyperbolic conservation laws. The principle is to compute the solution in space-time subdomains defined by the curves of discontinuity, constructed from the Rankine-Hugoniot jump conditions. The proposed approach allows to efficiently consider an arbitrary number of entropic shock waves, shock wave generation, as well as wave interactions. Some numerical experiments are presented to illustrate the strengths of the algorithms.