

Computation of non conservative products and in-cell discontinuous reconstructions

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We are interested in the numerical approximation of discontinuous solutions of non conservative hyperbolic systems of partial differential equations. We first consider a non conservative formulation of the usual gas dynamics equations as a classical example of a non conservative system. We show how to define suitable in-cell reconstructions and projection steps in Godunov-type methods to properly compute the underlying shock discontinuities. Numerical evidences will be proposed.

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