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An explicit predictor-corrector scheme for sediment transports

In this talk, I will introduce a residual distribution scheme for computing bedload sediment transports in a shallow water environment. The approach that has been chosen, is to solve a hyperbolic nonlinear partial differential system of equations in a nonconservative form. Moreover, as we aim to obtain an efficient procedure including a shock capturing strategy, we consider an explicit predictor-corrector scheme with a flux limiter. During the presentation, particular attention will be made on accuracy, stability, well-balanced property and the implementation on clusters.