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**ALE INC.: a 2d Arbitrary-Lagrangian-Eulerian code on
polygonal staggered grids for compressible hydrodynamic
problems**

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Classical ALE code are constructed with a Lagrangian scheme (to increment the fluid variables and the mesh position), a Rezone (to improve the quality of the mesh) and a Remapper (to interpolate between the Lagrangian and the rezoned grids).

ALE INC. deals with polygonal grid in 2d in order to treat complex geometries. Moreover staggered grids are used to define fluid variables (nodal velocity, cell-centered internal energy, subcell densities) and to remap/interpolate with a high-order accuracy.

Such a code is conservative (mass, momenta and total energy), linear and bound preserving, positivity preserving, and material interfaces are preserved during the rezone/remap stages.

Validation test cases and more complex fluid flow simulations will be presented in 2d for polygonal grids.