

Title: Recent developments regarding the simulation of low Mach flows

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Abstract: The objective of the present contribution is to address some important issues specifically related to the simulation of low Mach number flows. First the applicative context will be introduced e.g. effusion flows for cooling aero engine combustion chamber walls. Some examples of canonical situations involving the interaction between an acoustic wave and such effusion flows will be presented. Then, based on a one-scale and two-scale asymptotic analysis of the Euler equations, the derivation of an appropriate flux scheme as well as the appropriate handling of subsonic inflow condition will be exposed.