Summary of "A conservative, thermodynamically consistent numerical approach for low Mach number combustion. Part I: Single-level integration"

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In this paper, a numerical scheme targeting at variable density Navier-Stokes equations was proposed. This equation set is common in the research of combustion phenomenon. Details of this scheme was introduced. In general, it is based on the projection method, where the advection-diffusion equation is firstly solved to obtain the prediction of intermediate velocities, and then these velocities are projected onto a space of approximately divergence-free vector field.This method is of 2nd-order accuracy and validations has been performed to demonstrate the algorithm maintains the EOS.