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Low-Mach consistency of a class of linearly implicit schemes for the compressible Euler equations. (English) [[Zbl 07447611](#)]

Chleboun, J. (ed.) et al., Programs and algorithms of numerical mathematics 20. Proceedings of the 20th seminar (PANM), Hejnice, Czech Republic, June 21–26, 2020. Prague: Czech Academy of Sciences, Institute of Mathematics. 69-78 (2021)

The authors deal with asymptotic consistency of a class of linearly implicit schemes for the compressible Euler equations. This class contains, for instance, the Dolejší-Feistauer-Kučera scheme. It is proved that the obtained solution converges to the solution of the incompressible Euler equations as the reference Mach number tends to zero.

For the entire collection see [[Zbl 1466.65003](#)].

Reviewer: [Michal Krizek](#)

MSC:

- [76N10](#) Existence, uniqueness, and regularity theory for compressible fluids and gas dynamics
- [76M45](#) Asymptotic methods, singular perturbations applied to problems in fluid mechanics
- [76B03](#) Existence, uniqueness, and regularity theory for incompressible inviscid fluids
- [65M12](#) Stability and convergence of numerical methods for initial value and initial-boundary value problems involving PDEs

Keywords:

[asymptotic preserving schemes](#); [compressible Euler equations](#); [low-Mach limit](#); [Hilbert expansion](#)

Full Text: [DOI](#)