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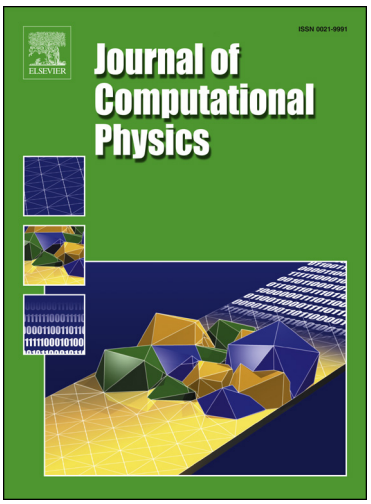

A unified gas-kinetic scheme for axisymmetric flow in all Knudsen number regimes

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PII: S0021-9991(18)30218-3
DOI: https://doi.org/10.1016/j.jcp.2018.04.004
Reference: YJCPH 7943

To appear in: *Journal of Computational Physics*

Received date: 10 September 2017
Revised date: 21 March 2018
Accepted date: 2 April 2018

Please cite this article in press as: S. Li et al., A unified gas-kinetic scheme for axisymmetric flow in all Knudsen number regimes, *J. Comput. Phys.* (2018), https://doi.org/10.1016/j.jcp.2018.04.004

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Highlights

- A multiscale scheme is proposed for axisymmetric flow in the whole flow regimes.
- It is based on the conservative quasi-2D BGK model without circumferential discretization.
- The local integral solution of 3D model is utilized both in the convection and source terms.
- The particle free transport and collisions are fully coupled.
- The efficiency is further improved with LU-SGS in the implicit scheme.

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