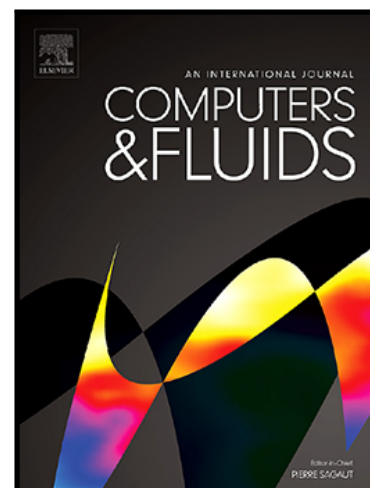


## Journal Pre-proof

Efficient high-order spectral element discretizations for building block operators of CFD

Immo Huismann, Jörg Stiller, Jochen Fröhlich

PII: S0045-7930(19)30344-5  
DOI: <https://doi.org/10.1016/j.compfluid.2019.104386>  
Reference: CAF 104386



To appear in: *Computers and Fluids*

Received date: 7 March 2019  
Revised date: 7 November 2019  
Accepted date: 13 November 2019

Please cite this article as: Immo Huismann, Jörg Stiller, Jochen Fröhlich, Efficient high-order spectral element discretizations for building block operators of CFD, *Computers and Fluids* (2019), doi: <https://doi.org/10.1016/j.compfluid.2019.104386>

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**Highlights**

- Efficient implementation of tensor-product operators for high-order spectral element methods
- Exploitation of parametrization, tailored unroll-jam and blocking of loops
- 50 % of the peak performance attained over a wide range of polynomial degrees
- Benefit of new operator implementation demonstrated on combustion problem with  $1 : 72 \cdot 10^9$  mesh points.

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