

# Accepted Manuscript

Numerical simulations of unsteady viscous incompressible flows using general pressure equation

Adrien Toutant

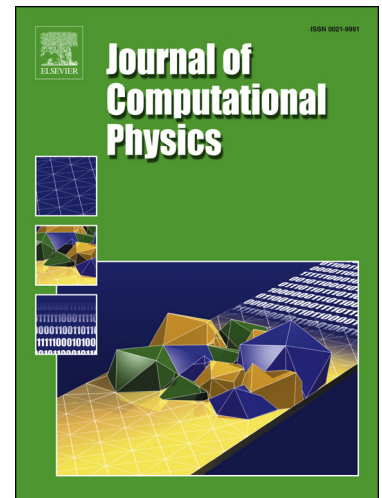
PII: S0021-9991(18)30523-0  
DOI: <https://doi.org/10.1016/j.jcp.2018.07.058>  
Reference: YJCPH 8186

To appear in: *Journal of Computational Physics*

Received date: 19 December 2017  
Revised date: 18 June 2018  
Accepted date: 31 July 2018

Please cite this article in press as: A. Toutant, Numerical simulations of unsteady viscous incompressible flows using general pressure equation, *J. Comput. Phys.* (2018), <https://doi.org/10.1016/j.jcp.2018.07.058>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



## Highlights

- Discretization of artificial compressibility method (ACM) without sub-iteration.
- Discretization of an alternative approach using the general pressure equation (GPE).
- Accurate simulations with ACM and GPE of unsteady viscous incompressible flow.
- Linear scaling of the root mean square velocity divergence with the Mach number.
- GPE convergence rates are better than those of ACM.

Download English Version:

<https://daneshyari.com/en/article/11002772>

Download Persian Version:

<https://daneshyari.com/article/11002772>

[Daneshyari.com](https://daneshyari.com)