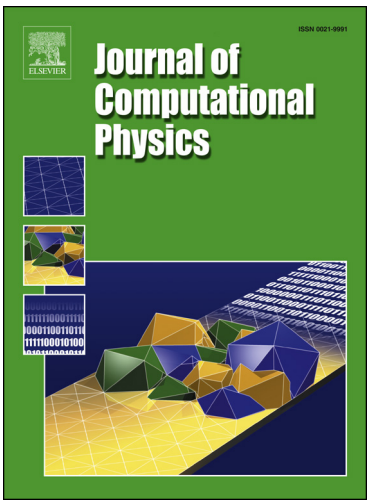
Accepted Manuscript



A stabilized element-based finite volume method for poroelastic problems

Hermínio T. Honório, Clovis R. Maliska, Massimiliano Ferronato, Carlo Janna

PII: S0021-9991(18)30162-1
DOI: https://doi.org/10.1016/j.jcp.2018.03.010
Reference: YJCPH 7902

To appear in: *Journal of Computational Physics*

Received date: 26 July 2017
Revised date: 5 February 2018
Accepted date: 5 March 2018

Please cite this article in press as: H.T. Honório et al., A stabilized element-based finite volume method for poroelastic problems, *J. Comput. Phys.* (2018), https://doi.org/10.1016/j.jcp.2018.03.010

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

- A new stabilization technique is proposed to avoid pressure instabilities in poromechanics.
- An element-based finite volume formulation for three-dimensional poroelastic problems is presented.
- The methodology preserves mass and force conservation for each control volume of the grid.
- The methodology can be applied to unstructured hybrid grids composed by tetrahedra, hexahedra, pyramids and prisms.

Download English Version:

https://daneshyari.com/en/article/6928889

Download Persian Version:

https://daneshyari.com/article/6928889

Daneshyari.com