

Accepted Manuscript

Topology optimization of hyperelastic structures using a level set method

Feifei Chen, Yiqiang Wang, Michael Yu Wang, Y.F. Zhang

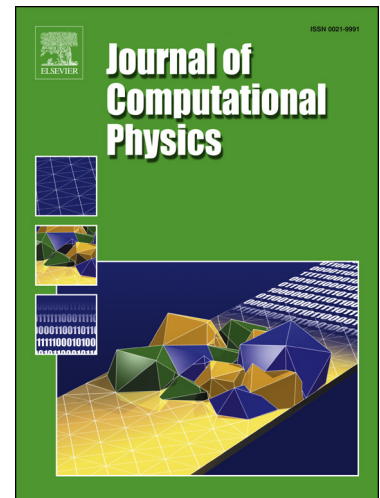
PII: S0021-9991(17)30700-3
DOI: <https://doi.org/10.1016/j.jcp.2017.09.040>
Reference: YJCPH 7613

To appear in: *Journal of Computational Physics*

Received date: 25 July 2017
Revised date: 14 September 2017
Accepted date: 22 September 2017

Please cite this article in press as: F. Chen et al., Topology optimization of hyperelastic structures using a level set method, *J. Comput. Phys.* (2017), <https://doi.org/10.1016/j.jcp.2017.09.040>

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 level set method is proposed for structural optimization of soft bodies.
- Geometric and material nonlinearities are considered.
- A strict shape sensitivity analysis is conducted with high-order terms retained.
- A discrete velocity selection strategy is developed.
- The proposed optimization method greatly improves the critical buckling load.

Download English Version:

<https://daneshyari.com/en/article/6929370>

Download Persian Version:

<https://daneshyari.com/article/6929370>

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