

From: "Journal of Computational Physics" <jcp@elsevier.com>  
Subject: JCOMP-D-13-01006  
Date: February 5, 2014 1:53:14 AM CST  
To: quaife@ices.utexas.edu

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Re: JCOMP-D-13-01006

Dear Dr. Quaife,

The Editorial Office has received the decision on the paper entitled "High-volume fraction of simulations of two-dimensional vesicle suspensions".

The reviewers' comments are as follows:

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Reviewer #1: Attached

Reviewer #2: The article "High-volume fraction simulations of two-dimensional vesicle suspensions" is interesting and well-written, and is, to this reviewers mind, well-suited for publication in Journal of Computational Physics. The article could, however, perhaps benefit from some minor clarifications :

- In section 3.4 a spectrally accurate collision detector is described. How does it handle close-to-touching vesicles? It seems like it could suffer from inaccuracy due to near singular integrands in such cases (for example for high concentration examples such as the one in Fig. 10). Is there a specific reason why you don't use your scheme for near-singular integration here? Using an adaptive time-stepper would likely remove this problem, so in the long run it is perhaps not a big deal, but it could perhaps be beneficial for the reader to add some comments about this.
- The first-order and second-order plots in the shear flow examples are very similar. Perhaps one of the figures could be used to display additional data? For example difference between first and second order distances over time, or area and length errors.
- How does the length and area errors vary with time in the stenosis example? For  $t = 5$  the vesicle has highly varying curvature, do the errors increase at this stage or are they roughly constant? A figure isn't necessary, but some comments would be appreciated.
- The reference blue circle in Fig. 10 seems to be missing.
- Some minor textual mistakes (search for Nystrom, integrall and "of the its area" in your tex file)

NOTE: Additional comments by the reviewers may be available in Elsevier Editorial System (EES). You can find these comments in EES by clicking on "view review attachments". Please contact jcp@elsevier.com if you have any problems opening the reviewer comments in EES.

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In view of these comments made the Associate Editor who guided your article, Professor Anna-Karin Tornberg, has decided that the paper can be reconsidered for publication after major revisions. Therefore we look forward to receiving the revised version of the paper together with a reply to the reports and a summary of the revisions made.

If the revised version is submitted within three months of receipt of this e-mail, the manuscript will retain the original submission date. After three months, your paper might be treated as a new submission and may be sent to new reviewers.

Please note that this journal offers a new, free service called AudioSlides: brief, webcast-style presentations that are shown next to published articles on ScienceDirect (see also <http://www.elsevier.com/audioslides>). If your paper is accepted for publication, you will automatically receive an invitation to create an AudioSlides presentation.

The revised version of your submission is due by May 06, 2014.

Yours sincerely,

Soniya Deepak  
on behalf of the Editors of Journal of Computational Physics

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