Author's response to editor's report

January 14, 2015

Editor's comments to the author

Chungang

Thanks again for your contribution. I am happy to inform you that the paper is now accepted for publication subject to two issues:

a) Could you please correct or commend on Referee ♯2 "Suggestions for revision"?

b) Could you please advise how the reader could get access to the program code if this is possible?

All the best.

Lutz Gross GMD Topical Editor

Referee ♯2's comment

I recommend this version of manuscript for publishing subject to a minor revision of equation (22) where I find notations still confusing. Look at line 172: " ... 3x3 matrix B_i ". I believe matrix B_i contains entries from all elements, not just one. The same is true for notations for vector q_i.

Author's response

Thank you for your constructive comments. Below, please find our point-to-point responses to your comments.

a) Could you please correct or commend on Referee ♯2 "Suggestions for revision"?

The spatial discretizations of the DOFs within the element $\mathcal{C}_i$, i.e. $\mathbf{q}_i = [q_{i1}, q_{i2}, q_{i3}]^T$ are determined by the known values of six DOFs only within element $\mathcal{C}_i$ and its neighboring upstream element $\mathcal{C}_{i-1}$ (given a positive velocity), rather than the entries from all elements. It is the well-known common advantage of the sort of local high-order reconstruction schemes, like DG and

spectral element methods. Considering a wave solution, the following relation holds

$$\mathbf{q}_{i-1} = e^{-\mathcal{I}\omega}\mathbf{q}_i.$$

As a result, $\mathbf{B}$ is a 3×3 matrix.

On the uniform grid, the coefficients $\tilde{b}_{i,ms}$ and $b_{i,ms}$ are same for all elements. Thus we delete the subscript i in the manuscript.

Furthermore, we give the expressions of the coefficients $\tilde{b}_{ms}$ and b_{ms} to avoid the confusion.

b) Could you please advise how the reader could get access to the program code if this is possible?

The readers can access the program code by sending a e-mail to cgchen@mail.xjtu.edu.cn.