

Subject **Fwd: ENUMATH2019: Full paper notification.**  
From Martin Hess <mhess@sissa.it>  
To Nirav Shah <snirav@sissa.it>, Gianluigi Rozza <gianluigi.rozza@sissa.it>  
Date 2020-04-20 16:51



Dear Gianluigi, Dear Nirav,

the review for the ENUMATH proceeding is below.

Several points concerning the writing were criticized, but I think the reviewer has a positive attitude towards the work itself.

Please let me know what you think about the comments, Nirav.

Deadline for revision is 31st May.

Martin

----- Forwarded Message -----

**Subject:**ENUMATH2019: Full paper notification.

**Date:**Mon, 20 Apr 2020 16:25:46 +0200

**From:**[info@enumath2019.eu](mailto:info@enumath2019.eu)

**To:**[mhess@sissa.it](mailto:mhess@sissa.it)

Dear Martin W Hess,

The review of the ENUMATH2019 full papers has been completed. Based on the review results, your contribution has been accepted with revision. The committee asks you to upload a new version of paper Nr. 270 entitled  
Discontinuous Galerkin Model Order Reduction of Geometrically Parametrized Stokes Equation by Martin W Hess, Gianluigi Rozza, Nirav V Shah

The reviewer(s) comments can be found at the end of this message.

Please upload the revised version of your paper before May 31, 2020. The layout of the full paper must fully meet the requested Springer requirements. In case something does not match you will be asked to change it. Can you please also double check the layout of your paper?

If you have any further questions, please contact the conference secretariat at: [info@enumath2019.eu](mailto:info@enumath2019.eu).

With kind regards,  
Fred Vermolen  
Conference chair

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Review Results

Title: Discontinuous Galerkin Model Order Reduction of Geometrically Parametrized Stokes Equation

Tracking Number: 270

Verdict: Accepted with Revisions

===== Review Results =====

Comments to Authors:

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title: Discontinuous Galerkin Model Order Reduction of Geometrically Parametrized Stokes Equation (initial submission)

date: April 15

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# General Remarks

This paper can be a proper conference proceeding, since the problem is challenging and the method is promising. However, the presentation needs to improved a lot.

# Particular Issues

## Part 1.1

\* The text in the introduction needs a thorough revision. The parts on DGM and PPDE, I found very hard to understand. Many sentences are logically inconsistent, like  $*(MOR)$  on the other hand allows reducing the size of the system to be solved by working with the smaller system\*

## Part 1.2

\* Part 1.2 needs polishing too. It should clearly introduce the concepts and state the assumptions. The first equation is not really a definition of a function.  $G_F$  is not introduced. I don't see any relation between the 2nd formula and an affine  $F$ .

## In part 1.3

\* I think that  $*broken Sobolev*$  spaces is rather used for Sobolov spaces with a broken exponent and not for finite element ansatz spaces.

\* The notation  $u_{\text{ndofs}}$  has not been introduced and looks not very pleasant. What about using " $h \rightarrow 0$ ", where  $h$  is a characteristic length of the discretization" instead? Or maybe  $N_u$ ,  $N_p$ .

\* the subscript  $IP$  should be introduced, explained.

## Part 1.4

\*  $*dividing*$  (instead of  $*diving*$ )

\* Where is the affine expansion?

## ## Part 1.5

\* This is not well explained. It really does not become clear what is \*POD\* here. And in contrast to what is promised in the first paragraph, \*online-offline decomposition\* is not introduced.

## ## Part 1.6

\* This is not well explained either. It is only one parameter, right?  
 $[0.4, -0.6] \times [0.4, -0.6]$  is not an interval. What was the mesh?  
Eigenvalue decay is mentioned but this was never introduced.  
 $\frac{dx}{dy}$ -velocity has not been introduced. I suggest to take a different color scheme for the error plots in Fig. 1.1.