INSTRUCTIONS TO PREPARE A FULL PAPER FOR THE 9TH EUROPEAN CONGRESS ON COMPUTATIONAL METHODS IN APPLIED SCIENCES AND ENGINEERING ECCOMAS CONGRESS 2024

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Summary. This document provides information and instructions for preparing a Full Paper to be included in the Proceedings of *ECCOMAS CONGRESS 2024*.

1 INTRODUCTION

All the participants whose Abstract has been accepted for presentation at the ECCOMAS 2022 Congress are kindly requested to submit the Full Paper electronically via the web page of the Congress, before **July 1st, 2024**. Congress Proceedings (including full papers only) will be published on Scipedia with DOI number after the congress and will be submitted for indexation to SCOPUS database. Submission of the full paper is not mandatory. The Full Paper should be written following the format of macros for submission. The file has to be translated into Portable Document Format (PDF) before submission via the Conference site. The organizers do not commit themselves to include in the Proceedings any Full Paper received later than the above-mentioned deadline. The corresponding author should be the speaker, and is expected to register and pay his registration fee during the advance period (before **April 1st, 2024**) for the paper to be included in the technical programme of the ECCOMAS 2024.

2 METHODS

3 RESULTS

3.1 Basis Construction

For the beam problem, there are three oversampling problems to consider (left, inner, right). For each of the associated parametric transfer operators, n_{train} parameter samples are chosen, and the range for each of these (fixed) transfer operators is approximated via random sampling. In the sampling *normal* or *multivariate normal* distribution is used. The range approximation

of the n_{train} transfer operators yields n_{train} sets of basis functions, which are further compressed via POD, to obtain the final parameter independent basis functions (POD modes).
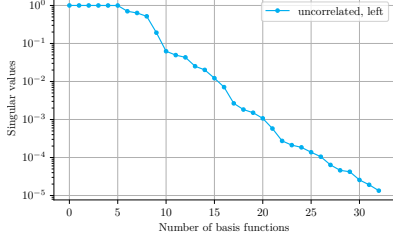
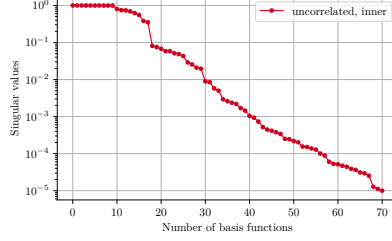### 3.1.1 Singular values of POD modes

Figure 1: A really Awesome Image age

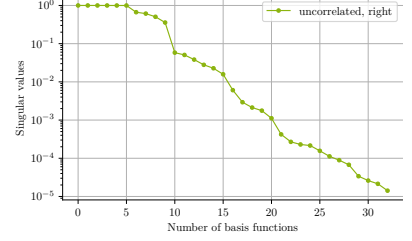**Figure 2**: A really Awesome Image age

Figure 3: A really Awesome Image age

3.1.2 Projection Error

The projection error is computed for a test set for each configuration that was computed using the FOM. Each test set has size n_{test}.
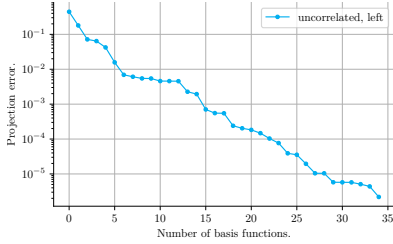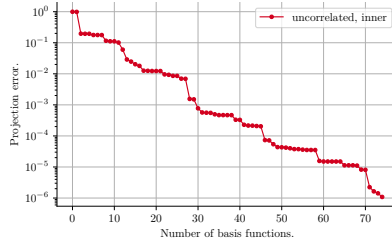

Figure 4: A really Awesome Image age

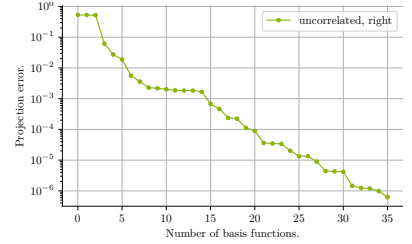**Figure 5**: A really Awesome Image age

Figure 6: A really Awesome Image age

3.2 Localized ROM

4 FORMAT OF REFERENCES

References should be quoted in the text by superscript numbers [1, 2, 3] and grouped together at the end of the Full Paper in numerical order as shown in these instructions.

5 CONCLUSIONS

- Full Papers in format for publication should be submitted electronically via the web page of the Conference, before **July 1st, 2024**. They must be converted to Portable Document Format (PDF) before submission. The maximum size of the file is 4 Mb.
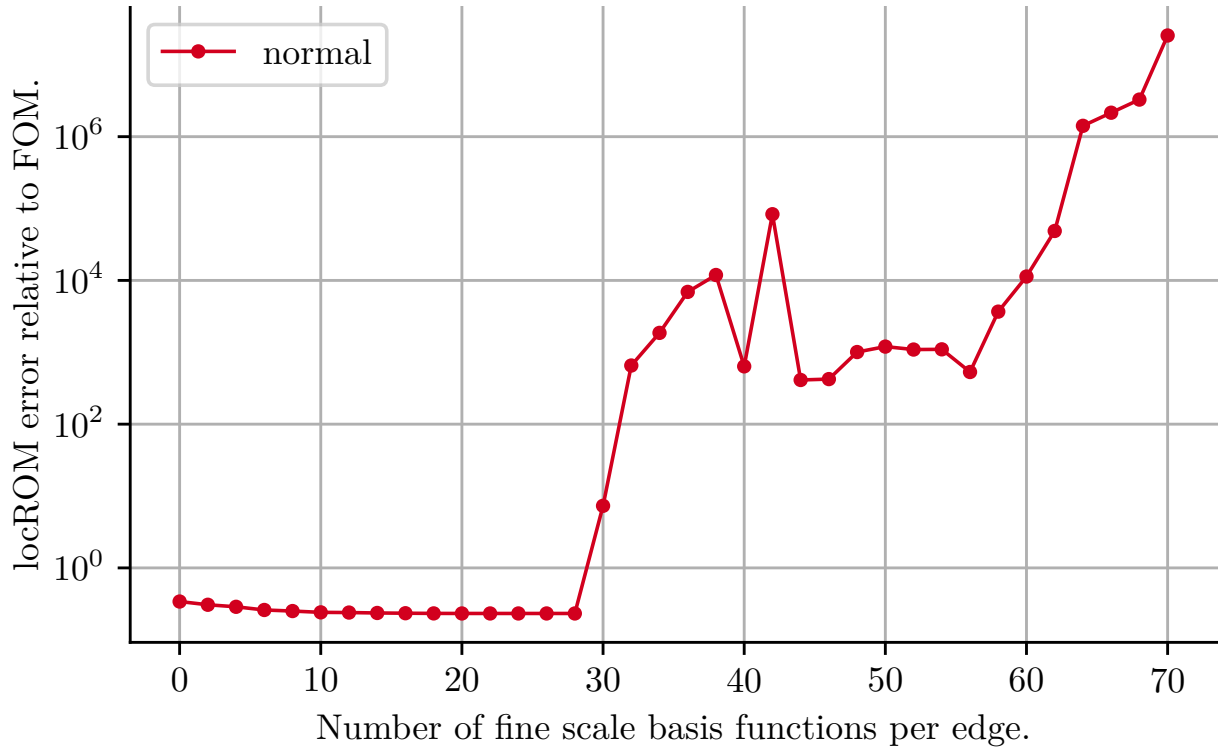
Figure 7: A really Awesome Image

REFERENCES

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