Dear Editor,

Attached you will find the revised version of the paper, titled "Conservative Model Order Reduction for Fluid Flow", with file name "paper.pdf". Another document under the file name "paper-highlighted.pdf" is also attached, where the changes in the paper are highlighted in the color red.

Yours Sincerely,

Babak Maboudi Afkham

Response to Reviewer

All the comments of the reviewer are addressed in the revision of the paper. Below you can find the response to some of the comments.

> **In some of the numerical examples is not reported the number of snapshots used to generate the POD spaces. For completeness I would add the number of snapshots used to generate the POD space in every numerical example.**

The number of snapshots used in each simulation is now reported.

> **In section 5.2 page 17 it is mentioned that a different strategy to ensure stability is used at the full order and at the reduced order level (artificial viscosity vs low pass filter). I would add a sentence to better explain the procedure used at the reduced order level (low pass filter on the expansion coefficients).**

The strategy used for stability in this simulation is now included.

> **It is not clear to me the strategy used, at the reduced order level, to deal with the pressure- velocity coupling. Are equations 39-40 solved using a monolithic approach?**

The reduced system is solved similar to the high fidelity system, on a collocated grid. Therefore, at each time step one system of equations is solved for density, velocity, as well as for pressure. This is clarified in the paper in page 13.