pyMOR – Model Order Reduction with Python

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pyMOR (`https://pymor.org`) is a free and open source model reduction software library for the Python programming language. Originally created with the application of Reduced Basis methods to large-scale problems in mind [4], it has been designed from the ground up for seamless integration with external PDE solvers by expressing all algorithms in terms of operations on `VectorArray`, `Operator` and `Model` interface classes [2]. Since its inception in 2012, pyMOR has grown significantly beyond its original scope and now offers a wide selection of both Reduced Basis and system-theoretic algorithms, being maintained by an open group of developers from both fields [1, 3]. Recent additions include data-driven algorithms such as Dynamic Mode Decomposition or neural-network based approaches, structure-preserving methods as well as randomized numerical linear algebra algorithms.
With this poster we will give an overview on pyMOR's design and features. We will also discuss our current and future development goals.

References

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