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## Solving Matrix Equations with the MORLAB Toolbox

*Thursday 7 November 2019 15:00 (2 hours)*

The MORLAB, Model Order Reduction LABORatory, toolbox [1] is a free and open source software solution in MATLAB and GNU Octave for linear model reduction problems. Providing system theoretic model order reduction methods, the basis of the highly efficient implementation is built by a large variety of dense matrix equation solvers based on iterative methods like the matrix sign function, Newton or squared Smith iterations, and many more. Therefore, the toolbox can be used to solve continuous- or discrete-time Lyapunov, Sylvester and Riccati equations, as well as continuous-time Bernoulli equations in a lot of different formats and formulations.

### References

- [1] P. Benner and S. W. R. Werner.  
MORLAB – Model Order Reduction LABORatory (version 5.0), 2019.  
See also <http://www.mpi-magdeburg.mpg.de/projects/morlab>.  
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