



MAX PLANCK INSTITUTE  
FOR DYNAMICS OF COMPLEX  
TECHNICAL SYSTEMS  
MAGDEBURG



COMPUTATIONAL METHODS IN  
SYSTEMS AND CONTROL THEORY

# Next-Gen Gas Network Simulation

C. Himpe, S. Grundel, P. Benner  
(Code Review: Jens & Pawan)

Computational Methods in Systems and Control Theory Group  
Max Planck Institute Magdeburg

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# morgen

## New Features, Upgrades and Updates:

- Configurable gravity term (dynamic, static, none).
- Increased hyperbolic-stability-limit explicit solvers (RK52, RK64).
- Gain error computation and optional gain correction (via  $D_r$ ).
- Linearized state-space model export ( $E, A, B, C, F$ ).
- More networks, performance enhancements, improved presentation.

→ <https://git.io/morgen> (morgen github repo)

→ <https://arxiv.org/abs/2108.02651> (preprint)