

## Accepted Manuscript

Title: On the Solution of Differential-Algebraic Equations through Gradient Flow Embedding

Author: Ehecatl Antonio del Rio-Chanona Craig Bakker  
Fabio Fiorelli Michail Paraskevopoulos Felipe Scott Raúl  
Conejeros Vassilios S. Vassiliadis



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*Submission of original paper:**“On the Solution of Differential-Algebraic Equations through Gradient Flow Embedding”***Highlights**

- Novel reformulation of Differential-Algebraic Equations (DAEs) to ODEs
- Pointwise least-squares optimization formulation of algebraic equations in DAEs
- Reformulation of least-squares pointwise optimization to coupled ODEs
- Rigorous asymptotic and epsilon-convergence proofs to true solution
- Computational validation on representative chemical engineering case studies

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