

Efficient Numerical Methods for Solving Large Henri-Michaelis-Menten Systems

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Systems of nonlinear differential equations arise in the mathematical modelling of enzyme-substrate dynamics, see, for example, [1], [2] and [3]. It is necessary to solve these systems numerically, which may be difficult when the system is large. These systems usually exhibit singular perturbations, which add further difficulties to the computation of their numerical solutions. Here, efficient finite difference methods are discussed, which use specially constructed piecewise uniform meshes and appropriate standard finite difference operators to overcome these difficulties.

References

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