

The limitations, dangers, and benefits of simple methods for testing identifiability

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Abstract-

In their Commentary paper, Villaverde and Massonis (On testing structural identifiability by a simple scaling method: relying on scaling symmetries can be misleading) have commented on our paper in which we proposed a simple scaling method to test structural identifiability. Our scaling invariance method (SIM) tests for scaling symmetries only, and Villaverde and Massonis correctly show the SIM may fail to detect identifiability problems when a model has other types of symmetries. We agree with the limitations raised by these authors but, also, we emphasize that the method is still valuable for its applicability to a wide variety of models, its simplicity, and even as a tool to introduce the problem of identifiability to investigators with little training in mathematics.

Index Terms- identifiability, biomathematics, models, biophysics

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