

This talk will introduce the test suites to assess the model order reduction (MOR) techniques for combustion applications. A suite of simplified 1D problems is established with well-known challenging features for MOR techniques, such as convection-dominated stiff/nonlinear dynamics *and* presence of dissimilar multi-scale physics. These features are representative of the physics observed combustion problems while the nature of the 1D setup creates a low entry-level for researchers to test their MOR methods. This test suite is designed to evaluate different MOR techniques with specific focuses on 1) representation of long-term temporal dynamics, and 2) prediction of the solution to dynamical systems outside the training time window. Appropriate metrics for the evaluations will be discussed regarding accuracy, efficiency, cost, and robustness. In addition, some preliminary MOR efforts on this test suite will be presented in this talk.