Paper Review 3: Identification of distributed parameter systems- A neural net based approach
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Advances in scientific computation and developments in spatially resolved sensor technology have, in recent years, critically enhanced our ability to develop modeling strategies and experimental techniques for the study of the spatiotemporal response of distributed nonlinear systems. The usual alternatives for the modeling of these systems, simplifying techniques that seek to capture the distributed system dynamics through lumped parameter models, can be drastically underresolved, and miss important features of the true system response. Robust implementations of distributed system identification algorithms based on detailed spa- tiotemporal experimental data have, therefore, an important role to play. In this contribution we present a methodology for the identification of distributed parameter systems, based on artificial neural network architectures, motivated by standard numerical discretization techniques used for the solution of partial differential equations