Bursting Scenaria in Adaptive Algorithms: Performance Limitations and Some Remedies.

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Abstract: A simple, yet general, bursting scenario is presented for a wide class of parameter estimation and system identification algorithms in the absence of sufficient excitation. This allows for an analytical derivation of a lower bound on the worst-case performance of such algorithms in the presence of perturbations. A simple example is constructed to illustrate the implications of these results in adaptive control and interpret the design some burst suppression mechanisms.