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Delayed feedback control method for computing the cyclic steady states of evolution problems

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The paper presents and tests a noninvasive delayed feedback control strategy for calculating space time periodic solutions.

A full mathematical analysis is provided leading to an optimal construction and to a detailed understanding of the performances of the strategy in a general Partial Differential Equation Framework, with illustration in various engineering problems.

The impact of time discretisation is fully described and analyzed.

An extension is proposed for treating nonlinear problems in a convenient predictor corrector form.

Comparisons are provided with existing efficient Newton Krylov techniques.

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