RECONSTRUCTING AND IDENTIFYING THE ROSSLER’S SYSTEM BY USING A HIGH GAIN OBSERVER

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ABSTRACT

A simple way to determine the parameters of Rössler’s system based on a suitable output is presented in this paper. The fact that the nonlinear system is observable and algebraically identifiable with respect to the selected output, allows us to propose, in a first stage, a high-gain observer to estimate the output time derivatives. And then, based on these facts two suitable schemes to recover the parameters are presented.

KeyWords: Chaos, parameter identification, states reconstruction.