

SOLVING A SYSTEM OF NONLINEAR INTEGRAL EQUATIONS AND EXISTENCE OF ASYMPTOTICALLY STABLE SOLUTIONS

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Abstract. The paper is devoted to the study of a system of nonlinear integral equations. First, this system is reduced to a fixed point problem of a nonlinear integral operator and hence we can give suitable assumptions and using a fixed point theorem of Krasnosel'skii type in order to obtain the existence of solutions. Next, we prove the existence of asymptotically stable solutions for the above system. In order to illustrate the results, an example is also presented.

Mathematics subject classification (2010): 45G10, 47H10, 47N20, 65J15.

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