عنوان مقاله:

NON- LINEAR DYNAMICS AND CHAOS CONTROL OF A PHYSICAL PENDULUM WITH A ROTATING MASS

نویسندگان:

Zareiya Jahromi - *M.Sc. student, Department of Mechanical Engineering, Shiraz University*

Haji - *PhD student, Department of Mechanical Engineering, Shiraz University*

Mahzoon - *Assistant Prof., Department of Mechanical Engineering, Shiraz University*

خلاصه مقاله:

The dynamic behavior of a physical pendulum system with a rotating mass at the end is studied in this paper. By applying various procedures such as phase portrait, Poincaré map, and bifurcation diagram, a variety of periodic solutions are studied and the phenomenon of the chaotic motion is presented. The effect of changing parameters in the system could be found in the bifurcation diagram. Further, chaotic motion can be verified by using Lyapunov exponent. Besides, non-feedback control, delayed feedback control, and adaptive control are used to control chaos effectively.

کلمات کلیدی:

Chaos – Chaos Control – Lyapunov exponent – Bifurcation

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