عنوان مقاله:
NORMAL FORM SOLUTION OF REDUCED ORDER OSCILLATING SYSTEMS

محل انتشار:
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خلاصه مقاله:
This paper describes a preliminary investigation into the use of normal form theory for modelling large nonlinear dynamical systems. Limit cycle oscillations were determined for a simple two-degrees-of-freedom double pendulum system. The double pendulum system was reduced into its centre manifold before applying normal form computations. Normal forms were obtained using a period averaging method which is applicable to non-autonomous systems, more advantageous than the classical methods. Good agreement was obtained between the predicted results from the normal form theory and numerical simulations of the original system.

کلمات کلیدی:
Normal Form Theory, Period Averaging, Limit Cycle Oscillations