ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

9. Ordinary Differential Equations and Dynamical Systems

1991 MS Classification: 34
Mehri, Bahman, Sharif University of Technology, Tehran, Iran

On the existence of periodic solutions for nonlinear ODE

We consider the nth order differential equation $x^{(n)} + \sum_{i=0}^{n-1} g\left(x^{(i-1)}\right) x^{(i)} + f(x, x', \ldots, x^{(n-1)}) = e(t)$. Under certain conditions on the nonlinear terms g and f, the existence of a periodic solution is obtained. This work is a generalization Reissig's result on a third order equation of the same type.
Reference: R. Reissig, An extension of Ezeilo's result, Annali di Mathematica Pura Appl. 14 (1971), 199–209.