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Abstracts of Short Communications and Posters

Section:

9. Ordinary Differential Equations and Dynamical Systems

1991 MS Classification: 34
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On the boundedness of the solutions of a certain nth order ODE

We are concerned with the behavior of the solutions of the nth order differential equation $x^{(n)} + \sum_{i=0}^{n-1} p_i(t) f_i\left(x^{(i)}\right) = g(t)$, where the functions p_i, f_i and g satisfy certain smoothness conditions. With the aid of some auxiliary functions an energy function is constructed, from which boundedness and other properties of the solutions are deduced.
Reference: M. S. Zarghami and B. Mehri, On the behavior of certain third order differential equation, J. London Math. Soc. (2), 4 (1971), 271–276.