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The Period Function for Hamiltonian Systems with Homogeneous Nonlinearities*

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The paper deals with Hamiltonian systems with homogeneous nonlinearities. We prove that such systems have no isochronous centers, that the period annulus of any of its centres is either bounded or the whole plane and that the period function associated to the origin has at most one critical point. © 1997 Academic Press

1. INTRODUCTION AND STATEMENT OF MAIN RESULTS

This paper deals with Hamiltonian systems of the form

$$\begin{cases} \dot{x} = -H_y(x, y), \\ \dot{y} = H_x(x, y), \end{cases} \tag{1}$$

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