Chini Equations and Isochronous Centers in Three-Dimensional Differential Systems

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Abstract   We study the number of limit cycles of T-periodic Chini equations and some generalized Abel equations and apply the results obtained to illustrate the existence of isochronous centers in three-dimensional autonomous differential systems.

1 Introduction and Main Results

Consider non-autonomous differential equations of the form

$$\frac{dx}{dt} = a_n(t)x^n + a_{n-1}(t)x^{n-1} + \cdots + a_1(t)x + a_0(t), \tag{1}$$

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