SIDE 14.2

SIDE
Symmetries and Integrability
of Difference Equations

Contribution ID : 67

Painlevé-type delay differential equations in the complex plane

Friday 23 Jun 2023 at 15:30 (00h30')

Content :

Several examples of delay differential equations (equations relating a function of a single variable to shifts and derivatives of the function with respect to that variable) have appeared in the literature that deserve to be called integrable. Some are known to be reductions of integrable differential-difference equations and possess Lax pairs as well as continuum limits to the classical Painlevé equations. We will describe the nature of some solutions of these equations in the complex domain, and also provide some new examples. This work has led to a number of general results and conjectures about the value distribution of meromorphic functions.

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