

Liouvillian First Integrals for Generalized Riccati Polynomial Differential Systems

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Abstract

We study the existence and non-existence of Liouvillian first integrals for the generalized Riccati polynomial differential systems of the form $x' = y$, $y' = a(x)y^2 + b(x)y + c(x)$, where $a(x)$, $b(x)$ and $c(x)$ are polynomials.

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