

A qualitative study of the quartic system with maximal multiplicity of the line at the infinity

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Consider the generic quartic differential system. In [1] it was proven that the class of differential quartic systems that have the invariant straight line at the infinity of maximal multiplicity is affine equivalent with the system

$$\begin{cases} \dot{x} = -3x + ay^4, \\ \dot{y} = y. \end{cases} \quad (1)$$

In this paper, by using several techniques, we obtain its phase portrait on Poincaré disk.

REFERENCES

- [1] REPEȘCO, Vadim. *The canonical form of all quartic systems with maximal multiplicity of the line at the infinity.* Sychasni problemi diferenzial'nyx rivnean' ta ix sastosuvannja (ukr), Cernăuți, 16 - 19 veresnja, 2020 roku, pp 66-67.

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