

A Blow-up method for proving integrability and linearizability of some planar polynomial systems of differential equations

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I shall discuss an effective method for proving integrability and linearizability of the resonant saddles. The method is based on the use of a blow-up transformation and solving the recurrence differential equations using induction. Using this method some open integrability and linearizability problems for certain resonant saddles are solved. We also apply the method to nilpotent and degenerate monodromic singularities solving the center problem when the center conditions are algebraic.

References

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