

# Topological equivalence in the infinity of a planar vector field and its principal part defined through Newton polytope

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The main goal of this study is to establish non-degeneracy conditions under which a real planar polynomial vector field  $X$  is topologically equivalent to its *upper principal part*  $X_{\Delta}^U$  defined by the Newton polytope in a neighbourhood of the infinity. Such a result assures that the singularities of  $X$  and  $X_{\Delta}^U$  positioned in the infinity have the same qualitative behavior (under topological equivalence), and it can be seen as a version of the main Theorem presented in [1, 2].

## References

- [1] F.M. Berezovskaya. *Topological normal form for a system of two differential equations*, Russian Mathematical Surveys **33(2)** (1978), 227–228.
- [2] M. Brunella, M. Miari. *Topological equivalence of a plane vector field with its principal part defined through Newton polyhedra*, Journal of Differential Equations, **85** (1990), 338–366.

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