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TOPOLOGICAL CLASSIFICATION OF LIMIT PERIODIC SETS OF POLYNOMIAL PLANAR VECTOR FIELDS

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Abstract: We characterize the limit periodic sets of families of algebraic planar vector fields up to homeomorphisms. We show that any limit periodic set is topologically equivalent to a compact and connected semialgebraic set of the sphere of dimension 0 or 1. Conversely, we show that any compact and connected semialgebraic set of the sphere of dimension 0 or 1 can be realized as a limit periodic set.

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