

Slow-fast cycles in generalized Liénard equations

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We give an overview of cyclicity results in the class of generalized Liénard equations, reviewing two recent papers co-authored with Huzak. These papers use the technique of slow divergence integral to give lower bounds on the number of limit cycles that can be present in Liénard equations. At the same time, we prove that the results on Liénard equations are relevant because slow-fast Liénard equations are shown to be normal forms for general contact points, up to exponentially small error terms. The proof is based on Gevrey estimates.