

MONODROMIC SINGULAR POINTS IN SWITCHING CURVES OF PLANAR PIECEWISE ANALYTICAL DIFFERENTIAL SYSTEMS

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Consider an analytical function $f : V \subset \mathbb{R}^2 \rightarrow \mathbb{R}$ having 0 as its regular value, a switching manifold $\Sigma = f^{-1}(0)$ and a piecewise analytical vector field $X = (X^+, X^-)$, i.e. X^\pm are analytical vector fields defined on $\Sigma^\pm = \{p \in V : \pm f(p) > 0\}$. We characterize when the vector field X has a monodromic singular point in Σ , called Σ -monodromic singular point. Moreover, under certain conditions, we show that a Σ -monodromic singular point of X has a neighborhood free of limit cycles.

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