

Geometry of bifurcation sets of generic unfoldings

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Abstract: It is a fact that the bifurcation set of some unfoldings could be a cuspidal edge, a swallowtail or even D_4 singularities. We study the geometry of such bifurcation sets.

When the bifurcation set is a cuspidal edge or a swallowtail, we calculate geometric invariants of the singularity at the origin. In the case of D_4^\pm singularities, we study the number of parabolic, ridge, and subparabolic curves through the singularity of the bifurcation set. We also study the behavior of parabolic curves on the bifurcation set.

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References

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