1) TITLE: ON SPHERICAL AND CYLINDRICAL BLOWING-UP AND THE LOSS OF

REGULARITY OF INVARIANT MANIFOLDS OF SINGULAR VECTOR FIELDS IN

DIMENSIONS TWO AND THREE.

2) ABSTRACT:

There exist two C^{∞} -Singular Germs of real vector fields in Dimensions two and

three which have one Topological Invariant Manifold in two and only one

 \mathcal{C}^1 -Invariant Manifold in Dimension Three, so, for Singular \mathcal{C}^{∞} -Germs and each

natural integer $k \geq 2$, there can exist no invariant Manifold of class C^k .

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