

**ON THE STRUCTURAL INSTABILITY OF
NON-HYPERBOLIC LIMIT CYCLES ON PLANAR
POLYNOMIAL VECTOR FIELDS**

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ABSTRACT

It is well known that non-hyperbolic limit cycles are structurally unstable in the set of planar smooth and analytical vector fields. In the case of planar polynomial vector fields, it is known that non-hyperbolic limit cycles of even degree are structurally unstable. However, it is not known if those of odd degree are also structurally unstable. Here, we prove that such limit cycles are structurally unstable if we consider the compact-open topology on the space of polynomial vector fields.