

**Brudnyi, Alexander**

**Small amplitude limit cycles and the distribution of zeros of families of analytic functions.**

(English) [Zbl 1010.34021](#)

*Ann. Math. (2)* 154, No. 2, 227-243 (2001).

The paper is concerned with the number of limit cycles of a planar polynomial system in a neighborhood of the origin. An estimation is given on their number. The main tool is a distributional inequality for the number of zeros of some families of univariate holomorphic functions depending analytically on a parameter.

Reviewer: [Maoan Han \(Shanghai\)](#)

**MSC:**

- [34C05](#) Topological structure of integral curves, singular points, limit cycles of ordinary differential equations
- [34C10](#) Oscillation theory, zeros, disconjugacy and comparison theory for ordinary differential equations
- [60F05](#) Central limit and other weak theorems

[Cited in 2 Documents](#)

**Keywords:**

[small amplitude limit cycles](#); [distribution of zeros](#)

**Full Text:** [DOI](#) [arXiv](#)