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Limit cycles of polynomial vector fields with nondegenerate singular points on the real plane. (Russian) [Zbl 0549.34033](#)

Funkts. Anal. Prilozh. 18, No. 3, 32-42 (1984).

The author has shown earlier that the proof of the well-known theorem of Dulac on the finiteness of the number of limit cycles of a polynomial vector field on the plane was not complete. In this paper the following main theorem is established. Assume that every singular point (finite or in the infinity) of a polynomial vector field on the plane is nondegenerate. Then the number of limit cycles is finite.

Reviewer: [S.Yu.Pilyugin](#)

MSC:

[34C05](#) Topological structure of integral curves, singular points, limit cycles of ordinary differential equations

[37G15](#) Bifurcations of limit cycles and periodic orbits in dynamical systems

Cited in **2** Reviews
Cited in **4** Documents

Keywords:

[limit cycles](#); [singular point](#)