

**Elbert, Á.**

**Asymptotic behaviour of autonomous half-linear differential systems on the plane.** (English)

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Stud. Sci. Math. Hung. 19, 447-464 (1984).

The paper deals with the system of half-linear differential equations of the form (1)  $y' = ay + bz^{1/n^*}$ ,  $z' = cy^{N^*} + dz$  where the coefficients a,b,c,d are constants, the number n is real, positive the function  $u^{n^*}$  means  $|u|^n \cdot \text{sgn} u$  for  $u \in R$ . The author defines an equivalence relation among the systems of the form (1) which yields that besides the trivial classes there are two special classes and two one-parameter families of classes. The classification is performed with respect to the values of constants a,b,c,d,n. In the paper the asymptotic behaviour of solutions for the trivial and two special classes is investigated and the one-parameter families of classes are characterized.

Reviewer: [J.Ohriska](#)

**MSC:**

**34E05** Asymptotic expansions of solutions to ordinary differential equations

Cited in **2** Reviews  
Cited in **29** Documents

**Keywords:**

[equivalence relation](#); [one-parameter families of classes](#)