

Takaši, Kusano; Naito, Yūki; Ogata, Akio

Strong oscillation and nonoscillation of quasilinear differential equations of second order.

(English) [Zbl 0869.34031](#)

Differ. Equ. Dyn. Syst. 2, No. 1, 1-10 (1994).

Summary: It is shown that Nehari's well-known criteria [*Z. Nehari*, Trans. Am. Math. Soc. 85, 428-445 (1957; [Zbl 0078.07602](#))] for strong oscillation and nonoscillation of the linear differential equation $y'' + \lambda q(t)y = 0$ can naturally be extended to a class of nonlinear differential equations of the form $(|y'|^\alpha \operatorname{sgn} y')' + \lambda q(t)|y|^\alpha \operatorname{sgn} y = 0$, $\alpha > 0$.

MSC:

[34C15](#) Nonlinear oscillations and coupled oscillators for ordinary differential equations

Cited in **41** Documents

[35B05](#) Oscillation, zeros of solutions, mean value theorems, etc. in context of PDEs

Keywords:

Nehari's criteria; strong oscillation; nonoscillation