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**A linearization method in oscillation theory of half-linear second-order differential equations.** (English) [Zbl 1178.34038](#)

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Summary: Using inequalities for a certain function appearing in the half-linear version of Picone's identity, we show that oscillatory properties of the half-linear second-order differential equation

$$(r(t)\Phi(x'))' + c(t)\Phi(x) = 0, \quad \Phi(X) = |x|^{p-2}x, \quad p > 1,$$

can be investigated via oscillatory properties of a certain associated second-order linear differential equation. This linear equation plays the role of a Sturmian majorant, in a certain sense, if  $p \geq 2$ , and the role of a minorant if  $p \in (1, 2]$ .

**MSC:**

**34C10** Oscillation theory, zeros, disconjugacy and comparison theory for ordinary differential equations

Cited in **5** Documents

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