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**Oscillation criteria of second-order generalized Emden-Fowler delay differential equations with a sub-linear neutral term.** (Chinese. English summary) [Zbl 07403564](#)

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Summary: In this paper, we study the oscillation of second order generalized Emden-Fowler delay differential equations with a sub-linear neutral term. Under the irregularity condition, by using Riccati transformation and the inequalities technique, several simple new oscillation criteria of this kind of equations to ensure that every solution oscillates are established. These oscillation criteria generalize and improve the classical research results including those adapted to Euler equations established in previous literatures. Finally, some examples to verify the wide application of these oscillation criteria are given in this paper.

**MSC:**

[34K11](#) Oscillation theory of functional-differential equations

[34K40](#) Neutral functional-differential equations

**Keywords:**

Emden-Fowler equation; Euler equation; second order delay differential equation; sub-linear neutral term; oscillation criterion; Riccati transformation