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Principal solutions of non-oscillatory half-linear differential equations. (English)

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Summary: The notion of the principal solution to nonoscillatory linear differential equations of second order is generalized to nonoscillatory half-linear second-order differential equations. Relations are established between the principal solutions to two differential equations when one of the differential equations is a Sturmian majorant of the other one. An application is given to the Bessel function $K_0(t)$.

MSC:

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

Cited in **20** Documents

Keywords:

principal solution; nonoscillatory half-linear second-order differential equations; Sturmian majorant; Bessel function