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Sufficient conditions for the solvability of some third order functional boundary value problems on the half-line

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Abstract: This paper is concerned with the existence of bounded or unbounded solutions to third-order boundary value problem on the half-line with functional boundary conditions. The arguments are based on the Green functions, a Nagumo condition, Schauder fixed point theorem and lower and upper solutions method. An application to a Falkner-Skan equation with functional boundary conditions is given to illustrate our results.

Keywords: functional boundary conditions; unbounded solutions; half-line; upper and lower solutions; Nagumo condition; Green's function; fixed point theory; Falkner-Skan equation

AMS Subject Classification: 34B10, 34B15, 34B27, 34B40, 34B60, 45G10

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