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MULTIPLE POSITIVE SOLUTIONS FOR A HIGHER ORDER BOUNDARY VALUE PROBLEM ON TIME SCALES

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Abstract. In this paper, we consider a nonlinear higher order three-point boundary value problem on time scales. We establish the criteria for the existence of one or two positive solutions for a higher order boundary value problem on time scales by using a result from the theory of fixed point index. Later, Leggett-Williams fixed-point theorem is used to investigate the existence of at least three positive solutions for a higher order boundary value problem on time scales. As an application, to demonstrate our results we also give an example.
Key Words and Phrases: Boundary value problems, cone, fixed point theorems, positive solutions, time scales.
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