



On Expansions in Eigenfunctions for Second Order Dynamic Equations on Time Scales

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Abstract: In this study, we explore an eigenvalue problem on a bounded time scales interval for self-adjoint second order dynamic equations with self-adjoint separated boundary conditions. Existence of the eigenvalues and eigenfunctions is shown. Next, mean square convergent and uniformly convergent expansions in eigenfunctions are established.

Keywords: *time scale; delta and nabla derivatives; Green's function; eigenvalue; eigenfunction.*

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