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**Nikolai Kosmatov\*** (nxkosmatov@ualr.edu), Department of Mathematics and Statistics, 2801 S. University Ave., Little Rock, AR 72204. *Positive solutions of the nonlinear semipositone Sturm-Liouville problem on time scales.*

We study the Sturm-Liouville nonlinear boundary-value problem

$$\begin{aligned}u^{\Delta\Delta}(t) &= f(t, u(\sigma(t))), \quad t \in (0, 1) \cap \mathbb{T}, \\ \alpha u(0) - \beta u^{\Delta}(0) &= 0, \quad \gamma u(\sigma(1)) - \delta u^{\Delta}(\sigma(1)) = 0,\end{aligned}$$

where  $\alpha, \beta, \gamma, \delta \geq 0$ ,  $\gamma\beta + \alpha\delta + \alpha\gamma\sigma(1) > 0$ . We assume that  $f \in C([0, \sigma(1)] \times \mathbb{R}^+)$  is a sign-changing function and obtain existence results of at least one or two positive solutions. (Received August 30, 2005)