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Daniel M. Maroncelli* (maroncdm@wfu.edu), PO Box 7388, 127 Manchester Hall,
Winston-Salem, NC 27109, and **Jesus Rodriguez**. *On the solvability on nonlinear discrete
Sturm-Liouville problems at resonance.*

In this work we provide conditions for the existence of solutions to nonlinear, discrete Sturm–Liouville problems of the form

$$\Delta(p(t-1)\Delta x(t-1)) + q(t)x(t) + \lambda x(t) = f(x(t)); \quad t \in \{a+1, \dots, b+1\}$$

subject to

$$a_{11}x(a) + a_{12}\Delta x(a) = 0 \text{ and } a_{21}x(b+1) + a_{22}\Delta x(b+1) = 0.$$

The parameter λ will be assumed to be an eigenvalue of the associated linear Sturm–Liouville boundary value problem. Our results generalize those found in the existing literature. (Received September 01, 2016)