Oscillation and stability of a mixed type difference equation with variable coefficients

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The goal of this work is to study the oscillatory and stability of the mixed type difference equation with variable coefficients

$$\Delta x(n) = \sum_{i=1}^{\ell} p_i(n)x(\tau_i(n)) + \sum_{j=1}^{m} q_j(n)x(\sigma_i(n)), \quad n \geq n_0,$$

where $\tau_i(n)$ is the delay term and $\sigma_j(n)$ is the advance term and they are positive real sequences for $i = 1, \cdots, l$and $j = 1, \cdots, m$, respectively, and $p_i(n)$ and $q_j(n)$ are real functions.