Oscillation Criteria for Difference Equations with Several Retarded Argument

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Consider the first order linear difference equation

$$\Delta u(k) + \sum_{i=1}^{m} p_i(k) u(\tau_i(k)) = 0,$$

where $m \in N$, the functions $p_i : N \to R_+$, $\tau_i : N \to N$, $\tau_i(k) \le k-1$, $\lim_{t \to +\infty} \tau_i(k) = +\infty$ $(i = 1,...,m)$ are defined on the set of natural numbers and difference operator is defined by $\Delta u(k) = u(k+1) - u(k)$.

New oscillation criteria of all solutions to the equation are established.