Ladas, G.

Oscillations of equations with piecewise constant mixed arguments. (English) Zbl 0711.34083
Differential equations and applications, Proc. Int. Conf., Columbus/OH (USA) 1988, Vol. II, 64-69 (1989).

Summary: [For the entire collection see Zbl 0707.00015.]

We obtain necessary and sufficient conditions for the oscillation of all solutions of the differential equation with piecewise constant mixed arguments

$$\dot{x}(t) + px(t) + \sum_{j=-\ell}^{m} q_j x([t+j]) = 0, \quad t \geq 0,$$

where $[\cdot]$ denotes the greatest integer function, $\ell, m \in \{0, 1, 2, ...\}$ and $p, q_j \in \mathbb{R}$ for $j = -\ell, ..., m$.

MSC:

34K99 Functional-differential equations (including equations with delayed, advanced or state-dependent argument)
34C10 Oscillation theory, zeros, disconjugacy and comparison theory for ordinary differential equations

Keywords:

oscillation