

Higher order discrete equations with deviated argument and asymptotic behavior their
solutions

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anotation

The present deals asymptotic behavior of solutions of higher order essentially nonlinear difference equations. Estimated necessary probes of availability of positive solutions. Found the classes of difference equations, which have so called property A and property B. discusses higher order difference equation with deviated argument

$$\Delta^{(n)} u(k) + p(k) |u(\sigma(k))|^\lambda \operatorname{sign}(u(\sigma(k))) = 0$$

where $n \geq 2$, $0 < \lambda < 1$, $p: N \rightarrow R$, $\sigma: N \rightarrow N$, $\lim_{k \rightarrow +\infty} \sigma(k) = +\infty$, $u: N \rightarrow R$.