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One case of appearance of positive solutions of delayed discrete equations. (English)

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The authors study the existence of a positive solution of the nonlinear delay discrete equation

$$\Delta u(k+n) = f(k, u(k), u(k+1), \dots, u(k+n)), \quad k \in \mathbb{Z}, k \geq a.$$

They derive a sharp sufficient condition for the existence of such solution. The result is a special case with $b(k) \equiv 0$ and $c(k) := \sqrt{k} \left(\frac{n}{n+1}\right)^k$ of the existence and boundedness result.

Reviewer: [Roman Hilscher \(Brno\)](#)

MSC:

39A10 Additive difference equations

39A11 Stability of difference equations (MSC2000)

Cited in **3** Documents

Keywords:

[positive solution](#); [nonlinear delay difference equation](#)

Full Text: [DOI](#)

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