

# Boundedness Character of a Max-type Difference Equation

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A complete picture regarding the boundedness character of positive solutions of the following difference equation

$$x_n = \max \left\{ A, \frac{x_{n-1}^p}{x_{n-k}^p} \right\}, \quad n \in \mathbf{N}_0$$

where  $k \geq 2$  and the parameters  $A$  and  $p$  are positive real numbers, is given. For the case  $p^{k-1} \in (0, k^k/(k-1)^{k-1})$ , we prove that all solutions of the equation are bounded by using a new method. The results in the paper partially solve one of the open problems posed by present author in [2].

## References and Literature for Further Reading

- [1] C. Cinar, S. Stević and I. Yalçinkaya, On positive solutions of a reciprocal difference equation with minimum, *J. Appl. Math & Computing* **17** (1-2) (2005), 307-314.
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- [4] S. Stević, Dynamics of a class of higher order difference equations, *Ars. Combin.* (to appear).