

Li, Xianyi; Tang, Hengsheng; Liu, Yachun; Xiao, Gongfu

A conjecture by G. Ladas. (English) [Zbl 0902.39003](#)

Appl. Math., Ser. B (Engl. Ed.) 13, No. 1, 39-44 (1998).

Summary: A sufficient condition for boundedness and persistence of the solutions of the following delay difference equation is obtained: $x_{n+1} = A/x_n^p + B/x_{n-1}^q$, $n = 0, 1, \dots$, where $A, B, p, q, x_{-1}, x_0 \in (0, \infty)$. A conjecture by *G. Ladas* [*J. Difference Equ. Appl.* 1, No. 4, 413-419 (1995; [Zbl 0853.39002](#))] is proved.

MSC:

[39A10](#) Additive difference equations

Cited in 7 Documents

Keywords:

positive solution; bounded solution; persistent solution; delay difference equation

Full Text: [DOI](#)

References:

- [1] Arciero, M., Ladas, G. and Schultz, S. W., Some open problems about the solutions of the delay difference equation $x_{n+1} = A/x_n^2 + 1/x_{n-k}^p$, *Proceedings of Georgian Academy of Sciences, Mathematics* 1: 3(1993), 257-262. · [Zbl 0819.39007](#)
- [2] De Vault, R., Ladas, G. and Schultz, S. W., On the recursive sequence $x_{n+1} = A/x_n^p + B/x_{n-1}^q$, *Proceeding of the Second International Conference on Difference Equation*, Aug. 7-11, 1995, Veszpreu, Hungary, Gordon and Breach Science Publishers.
- [3] Kocic V. L., and Ladas, G., *Global Asymptotic Behavior of Nonlinear Difference Equations of Higher Order with Applications*, Kluwer Academic Publishers, Dordrecht, 1993. · [Zbl 0787.39001](#)
- [4] Ladas, G., *Open problems and conjectures*, *Proceedings of the First International Conference on Difference Equations (San Antonio, 1994)*, Gordon and Breach Science Publishers, Basel, 1995. · [Zbl 1057.39505](#)
- [5] Ladas, G., *Open problems and conjectures*, *Journal of Difference Equations and Applications*, 1 (1995), 413-419. · [Zbl 0853.39002](#) · [doi:10.1080/10236199508808037](#)

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.