Kulenović, M. R. S.; **Merino, O.**

A note on unbounded solutions of a class of second order rational difference equations. (English) Zbl 1107.39007

J. Difference Equ. Appl. 12, No. 7, 777-781 (2006).

The authors study the difference equation

$$x_{n+1} = \frac{\alpha + \beta x_n + \gamma x_{n-1}}{A + B x_n + C x_{n-1}},$$

where all coefficients and initial conditions are nonnegative, $A + Bx_n + Cx_{n-1} > 0$ for all n. A characterization of unbounded solutions for this equation is presented.

The paper aswers two open problems posed by *M. R. S. Kulenović* and *G. Ladas* [Dynamics of second order rational difference equations. With open problems and conjectures, London: Chapman and Hall/CRC (2001; Zbl 0981.39011)]

Reviewer: Oleg Anashkin (Simferopol)

MSC:

39A11 Stability of difference equations (MSC2000)
39A20 Multiplicative and other generalized difference equations

Keywords:

stable manifold

Full Text: DOI

References:

[1] DOI: 10.1016/S0362-546X(02)00294-8 · Zbl 1019.39006 · doi:10.1016/S0362-546X(02)00294-8

[2] DOI: 10.1080/10236190211940 · Zbl 1005.39017 · doi:10.1080/10236190211940

[3] Hirsch, M. and Smith, H. 2005.Monotone Dynamical Systems, Handbook of Differential Equations, Ordinary Differential Equations, 239–357. Amsterdam: Elsevier B.V. · Zbl 1094.34003

[4] DOI: 10.1080/10236190412331285360 · Zbl 1064.39006 · doi:10.1080/10236190412331285360

[5] DOI: 10.1201/9781420035384· doi:10.1201/9781420035384

[6] DOI: 10.1201/9781420035353· doi:10.1201/9781420035353

[7] M.R.S. Kulenović and Merino, O., Competitive-exclusion versus competitive-coexistence for systems in the plane. Discrete Cont. Dynamical Syst. Ser. B (to appear). · Zbl 1116.37030

[8] DOI: 10.1155/JIA.2005.127 · Zbl 1086.39008 · doi:10.1155/JIA.2005.127

[9] Robinson C., Stability, Symbolic Dynamics, and Chaos (1995)

[10] DOI: 10.1080/10236199708808108 · Zbl 0907.39004 · doi:10.1080/10236199708808108