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Global attractivity of the equilibrium of $x_{n+1} = \frac{px_n + x_{n-1}}{qx_n + x_{n-1}}$ for $q < p$. (English) Zbl 1099.39007
J. Difference Equ. Appl. 12, No. 1, 101-108 (2006).

The authors prove the global attractivity of the positive equilibrium $\bar{x} = (p + 1)/(q + 1)$ of the second-order difference equation in the title with respect to positive initial values x_{-1}, x_0 . The proof is based on the properties of a map on the plane associated to the equation. The approach is innovative and may be used to study similar difference equations.

Reviewer: Oleg Anashkin (Simferopol)

MSC:

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

Cited in **10** Documents

Keywords:

global attractivity; asymptotic stability; positive equilibrium; second order rational difference equation

Full Text: [DOI](#)

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