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Asymptotic behavior of solutions of Volterra difference equations with finite linear part.

(English) [Zbl 0994.39006](#)

[Nonlinear Stud.](#) 8, No. 1, 87-95 (2001).

For the solutions of the nonlinear Volterra difference equation

$$\Delta x_n + \sum_{m=0}^N a_{nm} x_{n-m} + f(n, x_{n_0}, \dots, x_n), \quad n \geq n_0,$$

with prescribed initial values $x_{n_0-N}, \dots, x_{n_0}$ and $f(n, 0, \dots, 0) = 0$ boundedness and stability properties as well as asymptotic formulas are established.

Reviewer: [Lothar Berg \(Rostock\)](#)

MSC:

39A11 Stability of difference equations (MSC2000)

Cited in **2** Documents

Keywords:

[asymptotic behaviour](#); [bounded solution](#); [nonlinear Volterra difference equation](#); [stability](#); [asymptotics](#)