

Wang, Songmin; Li, Sheng

On entire solutions of nonlinear difference-differential equations. (English) Zbl 1302.34130
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The paper under review concerns the nonlinear differential-difference equation of the form

$$f^n + Q(z, f) = h$$

where $n \geq 2$ is an integer, $Q(z, f)$ is a differential-difference polynomial in f with polynomial coefficients, and h is a meromorphic function of order ≤ 1 .

The authors show, under two assumptions on $Q(z, f)$, that the equation has no transcendental entire solutions of finite order. Their proofs use results from the Nevanlinna theory such as the estimates on the logarithmic derivatives, Clunie's Lemma and so on.

Reviewer: [Yuefei Wang \(Beijing\)](#)

MSC:

- [34M05](#) Entire and meromorphic solutions to ordinary differential equations in the complex domain Cited in **6** Documents
- [30D35](#) Value distribution of meromorphic functions of one complex variable, Nevanlinna theory

Keywords:

[nonlinear differential-difference equations](#); [entire solutions](#); [meromorphic functions](#)

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