

Andreev, F. V.; Kitaev, A. V.

Transformations $RS_4^2(3)$ of the ranks ≤ 4 and algebraic solutions of the sixth Painlevé equation. (English) [Zbl 1019.34086](#)

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Considerable attention has been paid to the search of algebraic solutions to the sixth Painlevé equation. Here, compositions of rational transformations of independent variables of linear matrix ODEs with the Schlesinger transformations (RS-transformations) are used to construct algebraic solutions to Painlevé VI. RS-transformations of ranks 3 and 4 of 2×2 -matrix Fuchsian ODEs with 3 singular points into analogous ODEs with 4 singular points are classified.

Reviewer: [Mircea Crăsmăreanu \(Iasi\)](#)

MSC:

- [34M55](#) Painlevé and other special ordinary differential equations in the complex domain; classification, hierarchies
- [33E17](#) Painlevé-type functions
- [34M25](#) Formal solutions and transform techniques for ordinary differential equations in the complex domain

Cited in **1** Review
Cited in **17** Documents

Keywords:

[Painlevé VI](#); [RS-transformation](#); [Fuchsian ordinary differential equation](#)

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