

PAINLEVÉ EQUATION AND KRAWTCHOUK POLYNOMIALS

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ABSTRACT

In this contribution we investigate the connection between certain auxiliary quantities involving the recurrence coefficients of the generalised Krawtchouk polynomials and the fifth Painlevé equation. To this end, we address the regularisation of a differential system related to these polynomials. Additionally, we analyse iterative regularisation which facilitates the decomposition of certain birational transformations.

Keywords: Generalised Krawtchouk polynomials · Regularisation · Painlevé equation

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