

Complete Integrability Prolongation Structure and Backlund Transformation for the Konno-Onno Equation

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Painleve analysis is used to study the complete integrability of the recently proposed Konno-Onno equation, which also leads to a general form of solutions of the system. An independent study, using the prolongation theory, gives the explicit form of the Lax pair which is then used to obtain the Backlund transformation connecting two sets of solutions of the system. The existence of the Lax pair and the positive result of the Painleve test indicate the complete integrability of the system.

Key words: Integrability; Backlund Transformation; Prolongation Structure, Lie Algebra.