Bäcklund Transformations for Fifth-order Painlevé Equations

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In this article we study Bäcklund transformations of the fifth-order Painlevé equations Fif-I, Fif-II, Fif-III and Fif-IV. We derive Bäcklund transformations between these equations and new fifth-order Painlevé equations. The method of derivation is based on the idea of seeking transformations that preserve the Painlevé property. Moreover we give first integrals for the new equations. – MSC2000 classification scheme numbers: 34M55, 35Q51, 37K35

Key word: Bäcklund Transformations.