

THE RELATIONSHIP BETWEEN THE FIFTH PAINLEVÉ EQUATION AND ORTHOGONAL  
POLYNOMIALS

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Here we are concerned with orthogonal polynomials for a deformed Laguerre weight. It is shown that the coefficients of the three-term recurrence relation satisfied by the polynomials can be expressed in terms of Wronskians which involve Kummer functions. These Wronskians are related to special function solutions of the fifth Painlevé equation. Using this relationship we can explicitly write the recurrence relation coefficients in terms of exact solutions of the fifth Painlevé equation.

*Joint work with J Smith (University of Kent, UK).*