

General Geronimus Perturbations For Mixed Multiple Orthogonal Polynomials

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Abstract

General Geronimus transformations, defined by regular matrix polynomials that are neither required to be monic nor restricted by the rank of their leading coefficients, are applied through both right and left multiplication to a rectangular matrix of measures associated with mixed multiple orthogonal polynomials. These transformations yield Christoffel-type formulas that relate the perturbed and original polynomials. Furthermore, it is shown that the existence of Geronimus-perturbed orthogonality is equivalent to the non-cancellation of certain τ -determinants.

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References

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