

Generalized Humbert Matrix Polynomials

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Abstract

In the present paper, we introduce and study the generalized Humbert matrix polynomials for a matrix that satisfies an appropriate spectral property. We have presented, by means of the generalized hypergeometric matrix function, some hypergeometric matrix representations of the generalized Humbert matrix polynomials. In addition to establishing structures of generating matrix functions, expansions of the generalized Humbert matrix polynomials in series of Hermite and Laguerre matrix polynomials are obtained. The Gegenbauer matrix polynomials are here a particular case of the generalized Humbert matrix polynomials.

References

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