REPRESENTATION OF LIE ALGEBRA K_5 AND TWO-INDEX TWO-VARIABLE HERMITE MATRIX POLYNOMIALS

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Abstract

Pathan et al. [M. A. Pathan, M. G. Bin-Saad and F. Al-Sarhi, On matrix polynomials associated with Hermite matrix polynomials, Tamkang J. Math. 46(2) (2015), 167-177] defined the two-index two-variable Hermite matrix polynomials. Using them, we give a representation of the Lie algebra K_5 [Willard Miller, Jr., Lie theory and special functions, Mathematics in Science and Engineering, Vol. 43, Academic Press, New York, London, 1968].