REPRESENTATION OF LIE ALGEBRA $\tilde{K}_5$
AND APPELL POLYNOMIALS

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Abstract

We define Lie algebra $\tilde{K}_5$ similarly to the Lie algebra K_5 [Willard Miller, Jr., Lie theory and special functions, Mathematics in Science and Engineering, Vol. 43, Academic Press, New York and London, 1968], and give a representation of $\tilde{K}_5$ by using Appell polynomials [M. Anshelevich, Appell polynomials and their relatives, Int. Math. Res. Not. 65 (2004), 3469-3531; G. Dattoli, B. Germano, M. R. Martinelli and P. E. Ricci, A novel of Legendre polynomials, Mathematical and Computer Modeling 54 (2011), 80-87].