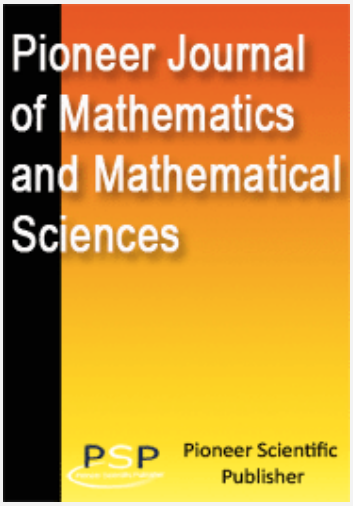
Pioneer Journal of Mathematics and Mathematical Sciences
Volume 29, Issue 1, Pages 1-5 (May 2020)

ISSN: 2230-9829



REPRESENTATION OF THE LIE ALGEBRA K_5 AND 2-INDEX 2-VARIABLE HERMITE POLYNOMIALS

Tadayoshi Takebayashi

Received November 12, 2019

Abstract

Using the 2-index 2-variable Hermite polynomials [G. Dattoli, P. L. Ottaviani, A. Torre and L. Vázquez, Evolution operator equations: integration with algebraic and finite-difference methods, Applications to physical problems in classical and quantum mechanics and quantum field theory, Riv. Nuovo Cimento Soc. Ital. Fis. (4) 20(2) (1997), 1-133; G. Dattoli, A. Torre, S. Lorenzutta and C. Cesarano, Generalized problems and operational identities, Accad. Sc. di. Torino Atti Sc. Fis. 132 (2000), 231-249], 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 and London, 1968].

Keywords and phrases: Lie algebra K_5, 2-index 2-variable Hermite polynomials.