



## REPRESENTATION OF LIE ALGEBRA $T_3$ AND TWO-INDEX BESSEL FUNCTIONS

Tadayoshi Takebayashi

Received November 26, 2019

### Abstract

Humbert [P. Humbert, Sur les fonctions du troisieme order, C.R.A.S. 190 (1930), 159-160] (see also [G. Dattoli, S. Lorenzutta, G. Maino, A. Torre, G. Voykov and C. Chiccoli, Theory of two index Bessel function and applications to physical problems, Journal of Mathematical Physics 35(7) (1994), 3636]) defined the two-index Bessel functions. Using them, we give a representation of the 3-dimensional Lie algebra  $T_3$  [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:** two-index Bessel functions, Lie algebra  $T_3$ .

Pioneer Journal  
of Mathematics  
and Mathematical  
Sciences



Pioneer Scientific  
Publisher