



**REPRESENTATION OF LIE ALGEBRA  $K_5$  AND  
ASSOCIATED FUNCTIONS  $w_n(x, y)$  OF THE  
HEAT POLYNOMIALS**

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**Abstract**

By using the associated functions  $w_n(x, y)$  [A. Torre, Airy polynomials, three-variable Hermite polynomials and the paraxial wave equation, J. Opt. 14 (2012), 45704, pp. 24] of the heat polynomials, we give a representation of the Lie algebra  $K_5$ .

**Keywords and phrases:** Lie algebra  $K_5$ , heat polynomials.

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