

Multivariate Meixner, Charlier and Krawtchouk polynomials

04.10**Genki Shibukawa***(Kobe University, Japan)***Time:** Friday 26.07., 11:00 - 11:30, Room HS 6

Abstract: In a previous paper (Journal of Lie Theory 26 (2016) 439–477), we introduced a multivariate analogue of Meixner, Charlier and Krawtchouk polynomials and established their main properties; generating functions, orthogonality, difference equations (recurrence formulas). Our multivariate Meixner, Charlier and Krawtchouk polynomials are also regarded as 2 (or 1) parameter deformations of rational analogue for Macdonald polynomials of type A. However, our proofs are based on harmonic analysis on symmetric cones (special functions for matrix arguments) and all our results need a restriction condition for the coupling constant. Recently, we give new their proofs without using harmonic analysis on symmetric cones, and succeed in extending all our previous results for any coupling constant. We would like to talk about these recent advances.