SIDE 14.2

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Expansion formulas for multiple basic hypergeometric series over root systems

Friday 23 Jun 2023 at 12:00 (00h30')

Content :

We extend the expansion formulas of Liu given in 2013 to the context of multiple series over root systems. Liu and others have shown the usefulness of these formulas in Special Functions and number-theoretic contexts. We extend Wang and Ma's generalizations of Liu's work which they obtained using q-Lagrange inversion. We use the A_n and C_n Bailey transformation and other summation theorems due to Gustafson, Milne, Lilly, and others, from the theory of A_n, C_n and D_n basic hypergeometric series. Our intent here is to provide several infinite families of extensions of Liu's key formulas to multiple basic hypergeometric series over the root systems.

This work was done in collaboration with Dr Gaurav Bhatnagar.

Keywords:
U(n +1)basic hypergeometric series
A_n and C_n basic hypergeometric series
A_n and C_n Bailey transform
q-Lagrange inversion

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