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UNIVERSITY OF CENTRAL FLORIDA



Well-poised and Elliptic Taylor Expansions

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ABSTRACT: We establish Taylor series expansions in rational (and elliptic) function bases using E. Rains' elliptic extension of the Askey-Wilson divided difference operator. The expansion theorem we consider extends M.E.H. Ismail's expansion for the Askey-Wilson monomial basis. Two immediate applications (both already due to Rains) include simple proofs of Frenkel and Turaev's elliptic extensions of Jackson's ${}_8\phi_7$ summation and of Bailey's ${}_{10}\phi_9$ transformation. Other (new) examples include the nonterminating extension of Jackson's ${}_8\phi_7$ summation and a quadratic expansion.

DATE: Tuesday, April 24, 2007
TIME: 10:30 – 11:30 am
PLACE: Math and Physics Building, Room 318

Refreshments served at 10:00 am in Room 318.