

1027-33-219

Michael J Schlosser* (michael.schlosser@univie.ac.at), Faculty of Mathematics,
Nordbergstrasse 15, 1090 Vienna, Austria. *Well-poised basic and elliptic Taylor expansions.*

We establish Taylor series expansions in rational (and elliptic) function bases using Rains' elliptic extension of the Askey–Wilson divided difference operator. This enables us to give simple proofs of several known results. Two immediate examples include Frenkel and Turaev's elliptic extension of Jackson's ${}_8\phi_7$ summation, and the computation of the connection coefficients of Spiridonov's elliptic extension of Rahman's biorthogonal rational functions. Other examples include the nonterminating extension of Jackson's ${}_8\phi_7$ summation and a quadratic expansion. (Received February 27, 2007)