

Meeting: 1003, Atlanta, Georgia, SS 26A, AMS-SIAM Special Session on Dynamic Equations on Time Scales; Integer Sequences and Rational Maps, I

1003-11-1581 **Yang Wang***, 1924 Wilkenson Xing, Marietta, GA 30066. *Quantum integers and cyclotomy.*

A sequence of functions $\mathcal{F} = \{f_n(q)\}_{n=1}^{\infty}$ satisfies the functional equation for multiplication of quantum integers if $f_{mn}(q) = f_m(q)f_n(q^m)$ for all positive integers m and n . This paper describes the structure of all sequences of rational functions with coefficients in \mathbb{Q} that satisfy this functional equation. (Received October 05, 2004)