

1116-11-1932

**Amanda Folsom, Sharon Garthwaite, Soon-Yi Kang, Holly Swisher and Stephanie Treneer\*** (`stephanie.trener@wwu.edu`). *Quantum mock modular forms arising from eta-theta functions.*

We investigate mock modular forms whose shadows are theta functions that are also eta-quotients (hereafter called eta-theta functions). Recently Lemke Oliver classified all weight  $1/2$  and  $3/2$  eta-theta functions. Using the methods from Zwegers thesis, we catalog mock modular forms whose shadows are one of the six weight  $3/2$  eta-theta functions and which are further related to weight  $1/2$  eta-theta functions. We then prove quantum modularity properties for one canonical choice of mock modular form corresponding to each of the six shadows. (Received September 21, 2015)