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**Robert C. Rhoades\*** ([rhoades@math.stanford.edu](mailto:rhoades@math.stanford.edu)). *q-series and quantum modular forms.*

Mock and partial theta functions may be considered as duals of one another. For instance, many  $q$ -hypergeometric series equal a mock theta function for  $|q| < 1$  and may be written as a partial theta function for  $|q| > 1$ . Quantum modular forms attempt to bridge the gap and exist when  $q$  is a root of unity. We will explain this phenomenon and give some connections to unimodal sequence and concave compositions. (Received September 25, 2012)