1051-33-232   **Hasan Coskun*** (`hasan_coskun@tamu-commerce.edu`), Department of Mathematics, 2600 S Neal St, PO Box 3011, Commerce, TX 75429. *Elliptic Macdonald Functions and Jackson Coefficients on BCn.*

We present two new families of symmetric rational functions, called elliptic Macdonald functions and Jackson coefficients on the root system BCn, that generalize Macdonald polynomials, interpolation Macdonald polynomials and other special functions. We will discuss several important properties of these functions and some of their remarkable applications such as a multiple generalization of the famous Euler's Pentagonal Number Theorem. (Received August 25, 2009)