1056-41-812    **Jeremy Wade*** (`jwade@pittstate.edu`), Department of Mathematics, Pittsburg State University, 1701 S. Broadway, Pittsburg, KS 66762. *Cesáro Summability of Expansions in Orthogonal Polynomials on a Cylinder.*

We investigate Cesàro summability of the Fourier orthogonal expansion of functions on $B^d \times I^m$, where $B^d$ is the closed unit ball in $\mathbb{R}^d$ and $I^m$ is the $m$-fold Cartesian product of the interval $[-1, 1]$, in terms of orthogonal polynomials with respect to the weight functions $(1 - z)^\alpha (1 + z)^\beta (1 - |x|^2)^{\lambda - 1/2}$, with $z \in I^m$ and $x \in B^d$. Using generating functions, we are able to obtain convergence of the $(C, \delta)$-means for suitably large values of $\delta$. (Received September 17, 2009)