ERGODIC AVERAGES WITH THE HECKE EIGENVALUE SQUARE WEIGHTS AND THE PILTZ DIVISOR FUNCTION WEIGHTS

JISEONG KIM

ABSTRACT. In this work, we prove that the Hecke eigenvalue square for a holomorphic cusp form and the Piltz divisor functions are good weighting functions for the pointwise ergodic theorem. This partially solves problems suggested by Cuny and Weber. Additionally, we prove similar results for various other arithmetical functions.

THE UNIVERSITY OF MISSISSIPPI, DEPARTMENT OF MATHEMATICS HUME HALL 335 OXFORD, MS 38677
Email address: Jkim51@olemiss.edu