

1020-46-144

CHANG-PAO CHEN* (cpchen@math.nthu.edu.tw), Department of Mathematics, National Tsing Hua University, Hsinchu, 300, Taiwan, and **MENG-KUANG KUO**, Department of Mathematics, National Tsing Hua University, Hsinchu, 300, Taiwan. *A Tauberian theorem for uniformly weakly convergence and its application to Fourier series.*

In 1995, S. Mercourakis introduced the concept of uniformly weakly convergent sequences and characterized such sequences as those with the property that any of its subsequences is Cesàro-summable. In this paper, we present a Tauberian theorem for such kind of convergence. As a consequence, we prove that the uniform pointwise convergence and the uniform convergence of a sequence of complex-valued functions coincide under a suitable Tauberian condition. This result affirmatively answers a question raised by S. Mercourakis concerning the Fourier series of a continuous function on the circle group T . In this paper, a result of Banach type is also established for uniformly weakly convergent sequences. Our result generalizes the work of Mercourakis. (Received August 25, 2006)