Fourier-Hilbert Transform for Certain Space of Generalized Functions

S. K. Q. Al-Omari Department of Applied Sciences, Faculty of Engineering Technology, Al-Balqa Applied University, 15008 Amman 11134, Jordan s.k.q.alomari@fet.edu.jo shridehalomari@bau.edu.jo

Abstract-

In this paper, we give a generalization of the Fourier-Hilbert transform on a class of Boehmians. Further, we show that the Fourier-Hilbert transform of a distribution is distribution which is analytic in the space of distributions of compact support. Further properties are also obtained.

Keywords- Hilbert transform; Fourier-Hilbert transform; distribution space; Boehmian space.