

## **$H^p$ -BOUNDEDNESS OF HANKEL HAUSDORFF OPERATOR INVOLVING HANKEL TRANSFORMATION**

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**Abstract.** In this paper the  $H^p(0, \infty)$ -boundedness of Hankel Hausdorff operator involving Hankel transformation is investigated by the method used by Y. Kanjin [1]. Some properties related to Hankel Hausdorff operator on  $H^p(0, \infty)$  space are discussed.

**Keywords.** Hankel transformation, Atomic decomposition, Hankel Hausdorff operator, Hardy space

**AMS (MOS) subject classification:** 46F12; 47B38.

## References

- [1] Yuichi Kanjin, The Hausdorff operators on the real Hardy space  $H^p(\mathbb{R})$ , *Studia Mathematica*, 148, 1(2001), 37–45.
- [2] E. Liflyand and F. Morciz, The Hausdorff operator is bounded on the real Hardy space  $H^1(\mathbb{R})$ , *Proc. Amer. Math. Soc.*, 128, 5 (1999), 1391-1396.
- [3] R.S. Pathak, Integral transforms of generalized functions and their applications, Gordon and Breach Science Publishers, U.K., 1997.
- [4] S.K.Upadhyay, R.N.Yadav and Loknath Debnath, On continuous Bessel wavelet transformation associated with Hankel-Hausdorff operator, *Integr Transf Spec F*, 23(5)(2012),315-323.
- [5] S.K.Upadhyay, R.N.Yadav and Loknath Debnath, Properties of the Hankel-Hausdorff operator on Hardy space  $H^1(0, \infty)$ , 32,(2012), 1001-1011.
- [6] A.I. Zayed, Function and Generalized Function Transformations, C.R.C. Press, New York, 2000.
- [7] A.H. Zemanian, Generalized Integral Transformation, Interscience Publishers, New York, 1968.

Received January 2014; revised April 2014.

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