A GENERALIZED HILBERT OPERATOR ACTING ON MEAN LIPSCHITZ SPACES

NOEL MERCHÁN (UNIVERSIDAD DE MÁLAGA)

If μ is a positive Borel measure on the interval [0, 1) we let \mathcal{H}_{μ} be the Hankel matrix $\mathcal{H}_{\mu} = (\mu_{n,k})_{n,k\geq 0}$ with entries $\mu_{n,k} = \mu_{n+k}$, where, for $n = 0, 1, 2, \ldots, \mu_n$ denotes the moment of orden n of μ . This matrix induces formally the operator

$$\mathcal{H}_{\mu}(f)(z) = \sum_{n=0}^{\infty} \left(\sum_{k=0}^{\infty} \mu_{n,k} a_k \right) z^n$$

on the space of all analytic functions $f(z) = \sum_{k=0}^{\infty} a_k z^k$, in the unit disc \mathbb{D} . This is a natural generalization of the classical Hilbert operator. This work is devoted to study the operators \mathcal{H}_{μ} acting on mean Lipschitz spaces.

References

- D. Girela and N. Merchán, A generalized Hilbert operator acting on conformally invariant spaces, Banach J. Math. Anal. 12 (2018), n. 2, 374–398.
- [2] D. Girela and N. Merchán, A Hankel matrix acting on spaces of analytic functions, Integral Equations Operator Theory 89 (2017), no. 4, 581-594.
- [3] N. Merchán, Mean Lipschitz spaces and a generalized Hilbert operator, to appear in Collect. Math. (2018). https://doi.org/10.1007/s13348-018-0217-y