

Extended Cesáro operators between generalized Besov spaces and Bloch type spaces in the unit ball

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Abstract. Let g be a holomorphic of the unit ball B in the n -dimensional complex space, and denote by T_g the extended Cesáro operator with symbol g . Let $0 < p < +\infty$, $-n - 1 < q < +\infty$, $q > -1$ and $\alpha > 0$, starting with a brief introduction to well known results about Cesáro operator, we investigate the boundedness and compactness of T_g between generalized Besov space $B(p, q)$ and α - Bloch space \mathcal{B}^α in the unit ball, and also present some necessary and sufficient conditions.

1. Introduction

For any $z = (z_1, \dots, z_n)$, $w = (w_1, \dots, w_n) \in C^n$, the inner product is defined by $\langle z, w \rangle = \sum_{k=1}^n z_k \bar{w}_k$. Let B be the unit ball of C^n , the class of all holomorphic functions on B is defined by $H(B)$. For $f \in H(B)$, we write

$$\nabla f(z) = \left(\frac{\partial f}{\partial z_1}(z), \dots, \frac{\partial f}{\partial z_n}(z) \right)$$