ON A NEW PRODUCT–TYPE OPERATOR ON THE UNIT BALL

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Abstract. Let \( m \in \mathbb{N}, \ u_j, \ j = 1, \ldots, m, \) be holomorphic functions on the open unit ball \( B \subset \mathbb{C}^n, \ \varphi \) be a holomorphic self-map of \( B, \) and \( D_l \) be the partial derivative operator in the \( l \)th variable \( l \in \{1, 2, \ldots, n\}. \) We introduce here the following polynomial differentiation composition operator

\[
P^m_{D_{\varphi} f} := \sum_{j=1}^m u_j C_{\varphi} D_j \cdots D_1 f
\]

and give some necessary and sufficient conditions for the boundedness and compactness of the operator from the logarithmic Bloch spaces to weighted-type spaces of holomorphic functions on \( B. \)

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REFERENCES


