Zeitschrift für Analysis und ihre Anwendungen 23 (2004), No. 2, 303–311

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Another Version of Maher's Inequality

Let H be a separable infinite dimensional complex Hilbert space, and let $L(H)$ denote the algebra of bounded linear operators on H into itself. Let $A = (A_1, A_2..., A_n)$, $B = (B_1, B_2..., B_n)$ be n-tuples of operators in $L(H)$. We define the elementary operator $\Delta_{A,B} : L(H) \mapsto L(H)$ by $\Delta_{A,B}(X) = \sum_{i=1}^{n} A_i X B_i - X$. In this paper we minimize the map $F_p(X) = \|T - \Delta_{A,B}(X)\|_p^p$, where $T \in \ker \Delta_{A,B} \cap C_p$, and we classify its critical points.

Keywords: Orthogonality, derivation, elementary operators.

MSC: 47B47, 47A30, 47B20; 47B10