

ABSTRACT

The notion of the numerical range has been generalized in different directions. One such direction, is the maximal numerical range introduced by Stampfli (1970) to derive an identity for the norm of a derivation on $L(H)$. Unlike the other generalizations, the maximal numerical range has not been largely explored by researchers as many only refer to it in their quest to determine the norm of operators. In this paper we establish how the algebraic maximal numerical range of elementary operators is related to the closed convex hull of the maximal numerical range of the implementing operators $A = (A_1, A_2, \dots, A_n)$, $B = (B_1, B_2, \dots, B_n)$, on the algebra of bounded linear operators on a Hilbert space H . The results obtained are an extension of the work done by Seddik [2] and Fong [9]