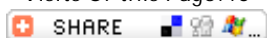




- > MainPage
- > About College
- > Files
- > Researches
- > Courses
- > Favorite Links
- > Our Contacts

Visits Of this Page: 15



Research Details :

Research Title : Rank one operators and norm of elementary operators
Rank one operators and norm of elementary operators

Descriptipn : Let A be a standard operator algebra acting on a (real or complex) normed space E . For two n -tuples $A = (A(1), \dots, A(n))$ and $B = (B(1), \dots, B(n))$ of elements in A , we define the elementary operator $R_{A, R-B}$ on A by the relation $R_{A, R-B}(X) = \sum_{i=1}^n A(i) X B(i)$ for all X in A . For a single operator A is an element of A , we define the two particular elementary operators $L-A$ and $R-A$ on A by $L-A(X) = AX$ and $R-A(X) = XA$, for every X in A . We denote by $d(R_{A, R-B})$ the supremum of the norm of $R_{A, R-B}(X)$ over all unit rank one operators on E . In this note, we shall characterize: (i) the supremum $d(R_{A, R-B})$, (ii) the relation $d(R_{A, R-B}) = \sum_{i=1}^n \parallel A(i) \parallel \parallel B(i) \parallel$, (iii) the relation $d(L-A - R-B) = \parallel A \parallel + \parallel B \parallel$, (iv) the relation $d(LARB + LBRA) = 2 \parallel A \parallel \parallel B \parallel$. Moreover, we shall show the lower estimate $d(L-A - R-B) \geq \max\{\sup\{\lambda \parallel A - \lambda B \parallel \mid \lambda \text{ is an element of } V(B)\}, \sup\{\lambda \parallel A - \lambda B \parallel \mid \lambda \text{ is an element of } V(A)\}\}$ (where $V(X)$ is the algebraic numerical range of X in A). (C) 2006 Elsevier Inc. All rights reserved.

Research Type : Article

Research Year : 2007

Publisher : LINEAR ALGEBRA AND ITS APPLICATIONS Volume: 424 Issue: 1
Pages: 177-183

Added Date : Tuesday, June 17, 2008

Researchers :

Researcher Name (Arabic)	Researcher Name (English)	Researcher Type	Degree	Email
.	Seddik, Ameur	Researcher	.	.