International Journal of Applied Mathematics
& Statistical Sciences (IJAMSS)
ISSN(P): 2319-3972; ISSN(E): 2319-3980
Vol. 8, Issue 2, Feb - Mar 2019; 11-16

International Academy of Science,
Engineering and Technology
Connecting Researchers; Nurturing Innovations

AN OPERATOR INEQUALITY IMPLYING CHAOTIC ORDER

M.Ilyas[1], Reyaz Ahmad[2] & S. Ilyas[3]

[1]*Research Scholar & Head, Department of Mathematics, Gaya College, Gaya, Bihar, India*

[2]*Research Scholar, American College of Dubai, United Arab Emirates*

[3]*Research Scholar, Department of Information Technology, Gaya College, Gaya, Bihar, India*

ABSTRACT

This paper proves the assertion that if positive invertible operators A and B satisfy an operator inequality $\left(B^{\frac{t}{2}}A^{\frac{S-t}{2}}B^{S-t}A^{\frac{S-t}{2}}B^{\frac{t}{2}}\right)^{\frac{1}{2s-t}} \geq B$ for $0 < t < \frac{S}{2}$, then by $A \geq B$, if $s < 2 - t$. If $s \geq 2+t$ is additionally assumed then $A \geq B$. A preliminary result Theorem 2 of J.J Fuji, M. Fuji and R. Nakamoto (FFN)[1] is further generalized in Theorem 3.

KEYWORDS: Operator Monotone Function, Operator Inequality, Chaotic Order, Hadamard-Schur Product

Article History

***Received:** 07 Jan 2019 | **Revised:** 18 Jan 2019 | **Accepted:** 25 Jan 2019*