Operators
and
Matrices
Volume 13, Number 2 (2019), 489–493 doi:10.7153/oam-2019-13-37

NUMERICAL RADIUS INEQUALITIES RELATED TO THE GEOMETRIC MEANS OF NEGATIVE POWER

YUKI SEO

Abstract. The norm inequalities related to the geometric means are discussed by many researchers. We discuss numerical radius inequalities related to the geometric means. Though the operator norm is unitarily invariant one, the numerical radius is not so and unitarily similar. In this paper, we show numerical radius inequalities related to the geometric means of negative power for positive invertible operators.

Mathematics subject classification (2010): 47A12, 47A64.
Keywords and phrases: Numerical radius, geometric mean, chaotic geometric mean, positive operator.

REFERENCES

[1] J. I. FUJII AND Y. SEO, *Tsallis relative operator entropy with negative paramaeters*, Adv. Oper. Theory, **1** (2016), no.2, 219–236.
[2] M. FUJII, J. MIĆIĆ HOT, J. PEČARIĆ AND Y. SEO, *Recent Developments of Mond-Pečarić Method in Operator Inequalities*, Monographs in Inequalities 4, Element, Zagreb, 2012.
[3] M. FUJII AND R. NAKAMOTO, *A geometric mean in the Furuta inequality*, Sci. Math. Japon., **55** (2002), 615–621.
[4] M. KIAN AND Y. SEO, *Norm inequalities related to the matrix geometric mean of negative power*, Sci. Math. Japon., (in Editione Electronica) e-2018 Whole Number 31 2018-7.
[5] F.KUBO AND T.ANDO, *Means of positive linear operators*, Math. Ann. **246**(1980), 205–224.
[6] R. NAKAMOTO AND Y. SEO, *A complement of the Ando-Hiai inequality and norm inequalities for the geometric mean*, Nihonkai Math. J., **18**(2007), 43–50.

© ELEMENT, Zagreb
Paper OaM-13-37
Operators and Matrices
www.ele-math.com
oam@ele-math.com