ON THE FURTHER REFINEMENT OF SOME OPERATOR INEQUALITIES FOR POSITIVE LINEAR MAP

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Abstract. In this paper, some further improvements of operator inequalities are given at the base of Yang et al.'s recent work [Filomat 32:12 (2018), 4333–4340] and [Math. Slovaca 69 (2019), 919–930] for positive linear map. Besides, the corresponding multiple-term refinements for scalars and operators are shown as well.

REFERENCES

[1] R. BHATIA, *Matrix Analysis*, GTM 169, Springer-Verlag, New York, 1997.
[2] R. BHATIA, F. KITTANEH, *Notes on matrix arithmetic-geometric mean inequalities*, Linear Algebra Appl., 308 (2000), 203–211.
[3] R. BHATIA, *Positive Definite Matrices*, Princeton University Press, Princeton, 2007.
[4] T. FURUTA, J. MIĆIĆ HOT, J. PEČARIĆ, *Mond-Pečarić Method in Operator Inequalities*, Element, Zagreb, 2005.
[5] R. A. HORN, C. R. JOHNSON, *Topics in Matrix Anlysis*, Cambridge University Press, 1991.
[6] F. KUBO, T. ANDO, *Means of positive operators*, Math. Ann., 264 (1980), 205–224.
[7] S. KIM, H. LEE, *Relative operator entropy related with the spectral geometric mean*, Anal. Math. Phys., 5 (2015), 233–240.
[8] P. KÓRUS, *A refinement of Young's inequality*, Acta Math. Hungar., 153 (2017), 430–435.
[9] M. LIN, *Squaring a reverse AG-GM inequality*, Studia Math., 215 (2013), 187–194.
[10] M. LIN, *On an operator Kantorovich inequality for positive linear map*, J. Math. Anal. Appl., 402 (2013), 127–132.
[11] Y. REN, P. LI, *Further refinements of reversed AM-GM operator inequalities*, J. Inequal. Appl., 2020, 1 (2020).
[12] M. SABABHEH, D. CHOI, *A completed refinement of Young's inequality*, J. Math. Anal. Appl., 440 (2016), 379–393.
[13] C. YANG, Y. GAO, F. LU, *Some refinements of Young type inequality for positive linear map*, Math. Slovaca, 69, 4 (2019), 919–930.
[14] C. YANG, F. LU, *Improving some operator inequalities for positive linear maps*, Filomat, 32, 12 (2018), 4333–4340.
[15] X. ZHAO, L. LI, H. ZUO, *Further improved Young inequalities for operator and matrices*, J. Math. Inequal., 11 (2017), 1023–1029.

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