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POMPEIU–ČEBYŠEV TYPE INEQUALITIES FOR SELFADJOINT OPERATORS IN HILBERT SPACES

MOHAMMAD W. ALOMARI

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ABSTRACT. In this work, generalizations of some inequalities for continuous h -synchronous (h -asynchronous) functions of selfadjoint linear operators in Hilbert spaces are proved.

REFERENCES

1. M. W. Alomari, *On Pompeiu–Chebyshev functional and its generalization*, Preprint arXiv:1706.06250v2.
2. S. S. Dragomir, *Čebyšev’s type inequalities for functions of selfadjoint operators in Hilbert spaces*, *Linear Multilinear Algebra*, **58** no 7–8 (2010), 805–814.
3. S. S. Dragomir, *Operator inequalities of the Jensen, Čebyšev and Grüss type*, Springer, New York, 2012.
4. T. Furuta, J. Mičić, J. Pečarić, and Y. Seo, *Mond–Pečarić method in operator inequalities. Inequalities for bounded selfadjoint operators on a Hilbert space*, Element, Zagreb, 2005.
5. M. S. Moslehian and M. Bakherad, *Chebyshev type inequalities for Hilbert space operators*, *J. Math. Anal. Appl.* **420** (2014), no. 1, 737–749.
6. J. S. Matharu and M. S. Moslehian, *Grüss inequality for some types of positive linear maps*, *J. Operator Theory* **73** (2015), no. 1, 265–278.

DEPARTMENT OF MATHEMATICS, FACULTY OF SCIENCE AND INFORMATION TECHNOLOGY,
IRBID NATIONAL UNIVERSITY, P.O. BOX 2600, IRBID, P.C. 21110, JORDAN.

E-mail address: mwomath@gmail.com

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