

Operator ideal of s -type operators using weighted mean sequence space

EZGI ERDOĞAN and VATAN KARAKAYA

ABSTRACT.

We introduce a different class of s -type operators by using the generalized weighted mean sequence space $c_0(u, v)$, then it is shown that this new class of operators is a quasi-Banach operator ideal. Moreover, their injectivity and surjectivity are investigated according to sort of s -number. Finally, we proof that it is a closed operator ideal under some conditions.

Acknowledgements. The first author was supported by TÜBİTAK- The Scientific and Technological Research Council of Turkey.

REFERENCES

- [1] Altay, B. and Başar, F., *Some Paranormed Sequence Spaces of Non-Absolute Type Derived by Weighted Mean*, J. Math. Anal. Appl., **319** (2006), 494–508
- [2] Constantin, Gh., *Operators of ces- p type*, Rend. Acc. Naz. Lincei., **52** (1972), No. 8, 875–878
- [3] Kara, E. E. and Ilkhan, M., *On a New Class of s -type Operators*, Konuralp J. Math., **3** (2015), No. 1, 1–11
- [4] Maji, A. and Srivastava, P. D., *On operator ideals using weighted Cesaro sequence space*, Egypt. Math. Soc., **22** (2014), 446–452
- [5] Pietsch, A., *Eigenvalues and s -numbers*, Cambridge University Press, 1987
- [6] Pietsch, A., *Operator Ideals*, North-Holland Publishing Company, 1980
- [7] Pietsch, A., *s -numbers of Operators in Banach Spaces*, Studia Math., **51** (1974), 201–223
- [8] Pietsch, A., *Einige neue Klassen Von Kompakten linearen Abbildungen*, Rev. Math. Pures Appl. (Bucarest), **8** (1963), 427–447
- [9] Şimşek, N., Karakaya, V. and Polat, H., *Operator Ideals of Generalized Modular Spaces of Cesaro Type Defined by Weighted Means*, J. Comput. Appl. Math., **19** (2015), No. 5, 804–811

MARMARA UNIVERSITY
DEPARTMENT OF MATHEMATICS
34722 KADIKÖY, ISTANBUL, TURKEY
E-mail address: ezgi.erdogan@marmara.edu.tr

YILDIZ TECHNICAL UNIVERSITY
DEPARTMENT OF MATHEMATICAL ENGINEERING
34220 DAVUTPAŞA, ISTANBUL, TURKEY
E-mail address: vkkaya@yahoo.com

Received: 17.09.2017; In revised form: 01.03.2017 ; Accepted: 20.03.2017

2010 Mathematics Subject Classification. 47B06, 47L20.

Key words and phrases. Operator ideals, s -numbers, weighted mean sequence space.

Corresponding author: Vatan Karakaya; vkkaya@yahoo.com.