

REGULAR MATRIX TRANSFORMATION
ON TRIPLE SEQUENCE SPACES-I

SHYAMAL DEBNATH and BIMAL CHANDRA DAS

Abstract. The main aim of this article is to establish necessary and sufficient conditions for a six dimensional matrix mapping to be regular on triple sequence spaces.

MSC 2010. 40A99, 40A09.

Key words. Triple sequence, regular matrix transformation, divergent triple series, convergent sequence.

REFERENCES

- [1] A. J. Datta, A. Esi and B.C. Tripathy, *Statistically convergent triple sequence spaces defined by Orlicz function*, J. Math. Anal., **4** (2013), 16–22.
- [2] B.C. Das, *Some I-convergent triple sequence spaces defined by a sequence of modulus function*, Proyecciones, **36** (2017), 117–130.
- [3] S. Debnath and B.C. Das, *Some new type of difference triple sequence spaces*, Palestine J. Math., **4** (2015), 284–290.
- [4] S. Debnath, B.C. Das, D. Bhattacharya and J. Debnath, *Regular matrix transformation on triple sequence spaces*, Bol. Soc. Parana. Mat., **35** (2017), 85–96.
- [5] S. Debnath, B. Sharma and B.C. Das, *Some generalized triple sequence spaces of real numbers*, J. Nonlinear Anal. Optim., **6** (2015), 71–79.
- [6] A. Esi and E. Savas, *On lacunary statistically convergent triple sequences in probabilistic normed spaces*, Appl. Math. Inf. Sci., **9** (2015), 2529–2534.
- [7] H. Kizmaz, *On certain sequence spaces*, Canad. Math. Bull., **24** (1981), 169–176.
- [8] P.N. Natarajan, *Classical summability theory*, Springer, Singapore, 2017.
- [9] G.M. Robison, *Divergent double sequences and series*, Trans. Amer. Math. Soc., **28** (1926), 50–73.
- [10] D. Rath and B.C. Tripathy, *Matrix maps on sequence spaces associated with sets of integers*, Indian J. Pure Appl. Math., **27** (1996), 197–206.
- [11] T. Salat, *On statistically convergent sequences of real numbers*, Math. Slovaca, **30** (1980), 139–150.
- [12] A. Sahiner, M. Gurdal and K. Duden, *Triple sequences and their statistical convergence*, Selçuk J. Appl. Math., **8** (2007), 49–55.
- [13] A. Sahiner and B.C. Tripathy, *Some I-related properties of triple sequences*, Selçuk J. Appl. Math., **9** (2008), 9–18.
- [14] E. Savas and A. Esi, *Statistical convergence of triple sequences on probabilistic normed spaces*, An. Univ. Craiova Ser. Mat. Inform., **39** (2012), 226–236.

The authors thank the referee for his helpful comments and suggestions.

- [15] N. Subramaniam and A. Esi, *The generalized triple difference of χ^3 sequence spaces*, Global Journal of Mathematical Analysis, **3** (2015), 54–60.
- [16] B.C. Tripathy and A. Esi, *A new type of difference sequence spaces*, International Journal of Science & Technology, **1** (2006), 11–14.
- [17] B.C. Tripathy and R. Goswami, *On triple difference sequences of real numbers in probabilistic normed spaces*, Proyecciones, **33** (2014), 157–174.
- [18] B.C. Tripathy and R. Goswami, *Vector valued multiple sequences defined by Orlicz functions*, Bol. Soc. Parana. Mat., **33** (2015), 67–79.
- [19] B.C. Tripathy and B. Sarma, *Statistically convergent difference double sequence spaces*, Acta Math. Sin. (Engl. Ser.), **24** (2008), 737–742.

Received November 23, 2017

Accepted January 10, 2018

Tripura University (A Central University)

Department of Mathematics

Suryamaninagar-799022, Agartala, India

E-mail: shyamalnitamath@gmail.com

Government Degree College

Department of Mathematics

Kamalpur-799285

Dhalai, Tripura, India

E-mail: bcdas3744@gmail.com