

COMPACT AND FREDHOLM OPERATORS ON SOME MATRIX DOMAINS OF TRIANGLES

EBERHARD MALKOWSKY

ABSTRACT. We present some general results for the determination of the β -duals of triangles in FK spaces and the characterisation of some classes of matrix transformations on them ([3]). Furthermore, we give a short introduction to the Hausdorff measure of noncompactness ([2]) which we apply to establish necessary and sufficient conditions for compact linear operators between the matrix domains of triangles in the sets of convergent and null sequences. Finally, we give a sufficient condition for a bounded linear operator from the matrix domain of a triangle in the space of null sequences into itself to be a Fredholm operator ([1]).

REFERENCES

- [1] I. Djolović, E. Malkowsky, A note on Fredholm operators on $(c_0)_T$, *in Press*
- [2] E. Malkowsky, V. Rakočević, An introduction into the theory of sequence spaces and measures of noncompactness, *Zbornik radova, Matematički institut SANU* **9(17)** (2000), 143–234
- [3] E. Malkowsky, V. Rakočević, On matrix transformations of triangles, *Applied Mathematics and Computation* **189**, (2007), 1146–1163

DEPARTMENT OF MATHEMATICS, UNIVERSITY OF GIESSEN, ARNDTSTRASSE 2, D-35392 GIESSEN, GERMANY

FACULTY OF INFORMATION TECHNOLOGIES, TADUEŠA KOŠČUŠKA 63, 11000 BELGRADE, SERBIA

E-mail address, E. Malkowsky: Eberhard.Malkowsky@math.uni-giessen.de
ema@Bankerinter.net

2000 *Mathematics Subject Classification*. Primary: 46A45 ; Secondary: 40H05.

Key words and phrases. Sequence spaces, matrix transformations, Hausdorff measure of noncompactness, compact and Fredholm operators.