

GENERAL INCLUSION THEOREMS FOR ABSOLUTE SUMMABILITY OF ORDER $k \geq 1$

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Abstract. We establish a general inclusion theorem for absolute summability of order $k \geq 1$, involving two lower triangular matrices. As corollaries we obtain a number of other inclusion theorems.

Mathematics subject classification (2000): 40F05, 40D25, 40G99.

Key words and phrases: Absolute summability inclusion theorem, triangular matrices, weighted mean matrices.

REFERENCES

- [1] H. BOR, *On the relative strength of two absolute summability methods*, Proc. Amer. Math. Soc. **113**, (1991), 1009–1014.
- [2] H. BOR, B. THORPE, *A note on two absolute summability methods*, Analysis **12**, (1992), 1–3.
- [3] T. M. FLETT, *On an extension of absolute summability and theorems of Littlewood and Paley*, Proc. London Math. Soc. **7**, (1957), 113–141.
- [4] H. C. RHALY, JR., *Discrete generalized Cesàro operators*, Proc. Amer. Math. Soc. **80**, (1982), 405–409.
- [5] H. C. RHALY, JR., *p -Cesàro matrices*, Houston J. Math. **15**, (1989), 137–146.
- [6] B. E. RHOADES, *Inclusion theorems for absolute matrix summability methods*, J. Math. Anal. Appl. **238**, (1999), 82–90.