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Criterion for regular matrices in non-Archimedean fields. (English) Zbl 0751.40003
J. Ramanujan Math. Soc. 6, No. 1-2, 185-195 (1991).

In this paper K denotes a complete, non-trivially valued, non-archimedean field and infinite matrices and sequences have entries in A . *F. Monna* [Nederl. Akad. Wet. Proc. Ser. A 66, 121–131 (1963; [Zbl 0121.32703](#))] and *J. B. Roberts* [Proc. Am. Math. Soc. 8, 541–543 (1957; [Zbl 0078.05003](#))] proved the criteria for convergence preservation and regularity of infinite matrices in K using non-archimedean functional analysis in the form of the analogue to the Banach-Steinhaus theorem. The purpose of the present paper is to prove these criteria for infinite matrices in K without recourse to non-archimedean functional analytic tools, using a technique of Schur, later fortified by V. Ganapathy Iyer in the case of the fields \mathbb{R} on \mathbb{C} .

Reviewer: P.N.Natarajan

MSC:

[40C05](#) Matrix methods for summability

[46S10](#) Functional analysis over fields other than \mathbb{R} or \mathbb{C} or the quaternions;
non-Archimedean functional analysis

Cited in 4 Documents

Keywords:

non-Archimedean functional analysis; Banach-Steinhaus theorem; matrix methods