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DOMAIN OF THE TRIPLE BAND MATRIX ON SOME
MADDOX’S SPACES

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Abstract. The sequence spaces \( \ell_\infty(p) \), \( c(p) \) and \( c_0(p) \) were introduced and studied by Maddox [Proc. Cambridge Philos. Soc. 64 (1968), 335–340]. In the present paper, we introduce the sequence spaces \( \ell_\infty(B,p) \), \( c(B,p) \) and \( c_0(B,p) \) of non-absolute type which are derived by the triple band matrix \( B(r,s,t) \) and is proved that the spaces \( \ell_\infty(B,p) \), \( c(B,p) \) and \( c_0(B,p) \) are paranorm isomorphic to the spaces \( \ell_\infty(p) \), \( c(p) \) and \( c_0(p) \); respectively. Besides this, the \( \alpha \)-, \( \beta \)- and \( \gamma \)-duals of the spaces \( \ell_\infty(B,p) \), \( c(B,p) \) and \( c_0(B,p) \) are computed and the bases of the spaces \( c(B,p) \) and \( c_0(B,p) \) are constructed. Finally, the matrix mappings from the sequence spaces \( \lambda(B,p) \) to a given sequence space \( \mu \) and from the sequence space \( \mu \) to the sequence space \( \lambda(B,p) \) are characterized, where \( \lambda \in \{ \ell_\infty, c, c_0 \} \).

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