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**$\mathbb{R}$ -factorizable  $G$ -spaces.**

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*Abstract:* The concept of  $\mathbb{R}$ -factorizable  $G$ -space is introduced. The quotients of  $\mathbb{R}$ -factorizable groups are  $\mathbb{R}$ -factorizable  $G$ -spaces and in this case they are characterized in the similar way as  $\mathbb{R}$ -factorizable groups. Moreover,  $\mathbb{R}$ -factorizability characterize those compact coset spaces which are coset spaces of  $\omega$ -narrow groups.

It is shown that the action of  $\mathbb{R}$ -factorizable group  $G$  on its quotient space  $X$  is extended to the action on their realcompactifications  $\nu G$  and  $\nu X$  and that  $\nu X$  is  $G_\delta$ -closed in the completion of  $X$  with respect to the maximal equiuniformity.