Let $\mathcal{U}$ and $\mathcal{V}$ be open covers of a space $X$. $\mathcal{V}$ is a shrinkable refinement of $\mathcal{U}$ [the reviewer with M. P. Berri and R. M. Stephenson jun., Proc. Kanpur Topol. Conf. 1968, 93–114 (1971; Zbl 0235.54018)] if for each $V \in \mathcal{V}$, there is a $U \in \mathcal{U}$ such that $\text{cl} \ V \subseteq U$. A space is $U(i)$ or quasi-$U$-closed [C. T. Scarborough, Pac. J. Math. 27, 611–617 (1968; Zbl 0189.23104)] if every open cover with shrinkable refinement has a finite subfamily whose closures cover. The authors introduce the concept of $R$-compactness; a space is $R$-compact if every open cover with shrinkable refinement has a finite subcover. It follows that a quasi-$H$-closed space is $R$-compact and an $R$-compact space is quasi-$U$-closed. Many characterizations and some mapping results of $R$-compact are obtained.

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MSC:

54D30 Compactness
54D25 "P-minimal" and "P-closed" spaces

Keywords:

quasi-$H$-closed space; almost compact space