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**Title:** On set-star-K-Menger spaces

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A topological space  $X$  is said to have the *set-star-K-Menger* property if for each nonempty subset  $A$  of  $X$  and for each sequence  $(\mathcal{U}_n : n \in \mathbb{N})$  of open families in  $X$  such that  $\bar{A} \subseteq \bigcup \mathcal{U}_n$  for all  $n \in \mathbb{N}$ , there is a sequence  $(K_n : n \in \mathbb{N})$  of compact subsets of  $X$  such that  $A \subseteq \bigcup_{n \in \mathbb{N}} \text{St}(K_n, \mathcal{U}_n)$ . This property is motivated by the sLindelöf cardinal function in Arhangel'skii [1] and set-star covering properties introduced by Kočinac, Konca and Singh [10]. We investigate the relationships between the set-star-K-Menger and other related properties, and study the topological properties of the set-star-K-Menger property.

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