Janković, D. S.; **Reilly, I. L.**; **Vamanamurthy, M. K.**
On strongly compact topological spaces. (English) Zbl 0647.54018
Quest. Answers Gen. Topology 6, No. 1, 29-40 (1988).

This paper is mainly concerned with alternative characterizations of strongly compact spaces. A subset S of a topological space (X,$\mathcal{T}$) is called preopen if $S \subset int(clS)$. A space (X,$\mathcal{T}$) is strongly compact if every preopen cover of (X,$\mathcal{T}$) has a finite subcover. The authors prove that a space (X,$\mathcal{T}$) is strongly compact iff it is compact and satisfies one of the following conditions: (1) Every cover of X by dense subsets has a finite subcover. (2) Each set with empty interior in (X,$\mathcal{T}$) is finite. (3) The family of dense sets in (X,$\mathcal{T}$) is finite. (4) The set of all non-isolated points in (X,$\mathcal{T}$) is finite. Finally they raise two questions, one of which is related to an SI-space in the sense of *E. Hewitt* [Duke Math. J. 10, 309-333 (1943; Zbl 0060.394)].

Reviewer: T.Ishii

MSC:

54D30	Compactness
54A05	Topological spaces and generalizations (closure spaces, etc.)

Keywords:
strongly compact spaces; preopen cover; SI-space