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Cellularity of first countable spaces. (English) Zbl 0634.54015
Topology Appl. 28, No. 2, 141-145 (1988).

We find subspaces of the Pixley-Roy space on the irrationals which are (1) a first countable ccc space which does not have a σ -linked base, (2) for each $n > 1$, a first countable space which has a σ - n -linked base but which does not have a $(\sigma - n + 1)$ -linked base and (3) a first countable space which has, for each $n > 1$, a σ - n -linked base but which does not have a σ -centered base.

It is consistent with $\neg Ch$ that (1) and (2) have cardinality \aleph_1 . (3) is constructed from a graph G on the continuum c which is not the union of countably many complete subgraphs but has no uncountable pairwise incompatible family of finite complete subgraphs (complete subgraphs A and B are compatible if there is a complete subgraph C which contains A and B).

MSC:

[54D65](#) Separability of topological spaces
[05C55](#) Generalized Ramsey theory

Cited in **2** Documents

Keywords:

Pixley-Roy space; first countable ccc space; σ -centered base; complete subgraphs

Full Text: [DOI](#)

References:

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- [2] Hajnal, A.; Juhász, I., A consequence of Martin's axiom, *Indag. math.*, **33**, 457-463, (1971) · [Zbl 0302.54005](#)

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