Almost disjoint families and relative versions of covering properties of κ-paracompactness type

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The main goal of this work is to investigate – within the realm of Isbell–Mrówka spaces, i.e., spaces constructed from almost disjoint families – some relative versions of covering properties of κ-paracompactness type, inspired by a comprehensive list of strengthenings of countable paracompactness introduced by M. E. Rudin in [1]. For any property $\mathcal{P}$ among the ones presented, we will say that an almost disjoint family $\mathcal{A}$ satisfies $\mathcal{P}$ if it satisfies a *relative* version of $\mathcal{P}$ in the corresponding Isbell–Mrówka space. We present combinatorial characterizations of the a.d. families with some of these new relative topological properties and prove several related results; for instance, it is shown that maximal almost disjoint families are not countably paracompact. The talk finishes with a number of questions and open problems

This is a joint work with Charles Morgan (UCL, London) and Dimi Rangel (USP, Sao Paulo).

[1] M. E. Rudin, κ-Dowker spaces, in *Aspects of topology* , number 93 in London Math. Soc. Lecture Note Ser. (Cambridge Univ. Press, Cambridge), p. 175–193.

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