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M-mappings make their images less cellular

Comment.Math.Univ.Carolinae 35,3 (1994) 553-563.

Abstract: We consider M -mappings which include continuous mappings of spaces onto topological groups and continuous mappings of topological groups elsewhere. It is proved that if a space X is an image of a product of Lindelöf Σ -spaces under an M -mapping then every regular uncountable cardinal is a weak precaliber for X , and hence X has the Souslin property. An image X of a Lindelöf space under an M -mapping satisfies $cel_\omega X \leq 2^\omega$. Every M -mapping takes a $\Sigma(\aleph_0)$ -space to an \aleph_0 -cellular space. In each of these results, the cellularity of the domain of an M -mapping can be arbitrarily large.

Keywords: M -mapping, topological group, Maltsev space, \aleph_0 -cellularity

AMS Subject Classification: 54A25