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Spaces of sigma finite linear measure. Preliminary report.

Spaces of finite linear measure were characterized in the 1930's. They are subsets of metric continua in which every pair of points can be separated by each of uncountably many pairwise disjoint finite sets. We prove that a space admits a sigma finite linear measure if and only if it is the countable union of closed subsets each of which admits finite linear measure. (Received February 09, 2010)