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Erdős, Paul; Jackson, Steve; Mauldin, R.Daniel

On infinite partitions of lines and space. (In English)

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Assume Martin's axiom and that the lines of the euclidean space $\mathbb{R}^n$ are decomposed into countably many classes $L_0, L_1, \ldots$. Then there is a decomposition of $\mathbb{R}^n$ into classes $S_0, S_1, \ldots$ such that if ℓ is a line from L_i then ℓ meets S_i in at most 3 points. Several other results extend this and earlier theorems to the case when higher dimensional hyperplanes are considered in place of lines.

P.Komjath (Burnaby)

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