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**Zbl 122.29903**
**Erdős, Pál; Kestelman, H.; Rogers, C.A.**
*An intersection property of sets with positive measure* (In English)
**Colloq. Math. 11, 75-80 (1963). [0010-1354]**

The main theorem of this paper runs as follows: "Let $X$ be a compact set. Suppose the topology in $X$ has a countable base. Let $\mu$ be a Carathéodory outer measure on $X$ with the properties: (a) $\mu(X) = 1$, (b) $\mu(\{x\}) = 0$ for each $x$ in $X$, (c) Borel sets in $X$ are $\mu$- measurable, (d) if $E$ is $\mu$-measurable and $\varepsilon > 0$, then there is an open set $G$ with $E \subset G$ and $\mu(G) < \mu(E) + \varepsilon$. Suppose $\eta > 0$ and $A_r$, $r \in N$, are $\mu$-measurable subsets of $X$ with $\limsup \mu(A_r) \geq \eta$. Then there is a Borel set $S$ in $X$ with $\mu(S) \geq \eta$, and a sequence $q_1 < q_2 < ...$, such that every point of $S$ is a point of condensation of the set $\cup_{i\geq 1} \cap_{r\geq i} A_{q_r}$, and every open set containing a point of $S$ also contains a perfect subset of $\cap_{i=0} A_{q_{j+i}}$ for some $j$".

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28A12 Measures and their generalizations