

STRONG MEASURE ZERO AND SELECTION PRINCIPLES

ONDŘEJ ZINDULKA

Strong measure zero sets can be characterized by the simplest selection principle S_1 : A set X in a metric space is strong measure zero if and only if for each sequence $\langle \mathcal{U}_n : n \in \omega \rangle$ of uniform covers of X there is a diagonal cover of X , i.e., a sequence $U_n \in \mathcal{U}_n$ such that $\{U_n : n \in \omega\}$ covers X . It turns out that the same pattern works for other classes of sets: meager-additive sets, null-additive sets etc.

I will establish a general framework and show relations to Ramsey theory and game theory and, as an application, solve a problem of Scheepers regarding sets whose finite powers have strong measure zero.

CZECH TECHNICAL UNIVERSITY

Email address: `ondrej.zindulka@cvut.cz`