

İSTANBUL ANALYSIS SEMINARS

LUZIN SPACES

NURETTİN ERGUN

Marmara University
Department of Mathematics

Abstract: A subset A of an uncountable T_2 space X is called a **Luzin Set** after the Russian Mathematician Nikolai Luzin iff $|A \cap N| \leq \aleph_0$ for each nowhere dense subset N of X . He proved in 1920 that in the Axiomatic Model (ZFC + CH) there exists a Luzin set in any Euclidean space. The existence of such sets in certain Axiomatic Models of Set Theory then becomes an interesting problem in **Set Theoretic Topology**. Kenneth Kunen has proved finally in 1976 that this question of existence is actually non- provable in ZFC since in the Model (ZFC+ MA+ \neg CH) such sets does not exist!

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