İSTANBUL ANALYSIS SEMINARS

QUOTIENTS OF IRRATIONALS

Nurettin ERGUN

Marmara University
Department of Mathematics

Abstract: As is well-known, a continuous image of a separable and completely metrizable space is called in Topology as ***analytic set*** or ***analytic space***. The following theorems are basic:

Baire-Alexandroff Theorem (1929): A topological space X is homeomorphic to $\mathbb{P}$ iff X is a separable, 0-dimensional and metrizable space which is an absolute G_δ having <u>no</u> compact open subset.

Hausdorff Theorem (1932): A metric space is an analytic set iff it is a continuous image of $\mathbb{P}$.

In the above setting, $\mathbb{P}$ denotes the irrationals with the standard subspace topology obtained from $\mathbb{R}^1$. We will give a detailed proof in this talk of the following well-known theorem of Ernest Michael and Arthur H. Stone from 1969:

The Main Theorem: Every analytic set is actually an image of $\mathbb{P}$ under a quotient mapping.

Date: November 6, 2015
Time: 15:40
Place: Sabancı University, Karaköy Communication Center
Bankalar Caddesi 2, Karaköy 34420, İstanbul