APPLICATIONS OF S-MEASURABILITY TO REGULARITY AND LIMIT THEOREMS

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Abraham Robinson originally introduced the notion of *S-measure* in order to characterize the convergence of sequences of measurable functions. Henson and Wattenberg then analyzed the *S-algebra* (that is, the sub-σ-algebra of the Loeb algebra generated by the standard sets) in order to prove a theorem of Egoroff on the convergence of standard functions. More recently I have extended this machinery and applied it to measure representation and differentiation.

In this talk I will show how measurability with respect to the S-algebra can be used to unify results about the regularity of measures and limits of measurable functions, including the Ergodic Theorem.

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