On probability and subjectivism

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Resumo

In 1900, at the II International Congress of Mathematicians held in Paris, David Hilbert presented ten (of a total of 23) unsolved (at the time) questions. Several became a hot topic, opening important research fields to solve them. In particular, the sixth problem (Mathematical treatment of the axioms of physics), was further explained as composed by two problems (i) axiomatic treatment of probability with limit theorems for foundation of statistical physics; and (ii) the rigorous theory of limiting processes "which lead from the atomistic view to the laws of motion of continua".

One may say that Kolmogorov's axiomatic approach of probability solved (i). Based on this approach, probability theory and statistics found powerful tools in measure theory to develop very useful results for applied and theoretical problems. Almost at the same time, another view, nowadays known as subjective, was also formalized by F. P. Ramsey and Bruno de Finetti but received much less attention.

This talk will show how this second school proved important results for mathematical statistics and its connection with other fields of mathematics such as functional analysis and set theory.