Set-theoretic aspects of topological selections

Piotr Szewczak*

Cardinal Stefan Wyszyński University in Warsaw, Poland
p.szewczak@wp.pl

Topological selections, as Menger, Hurewicz or Rothberger, are uniform procedures for generating a cover of a topological space from a sequence of covers of this space. They capture various properties defined in different mathematical fields. This discipline connects topology, set theory, and functional analysis, and make it possible to transport and apply methods from each of these fields to the other ones. The above mentioned properties are very sensitive to the ambient set-theoretic universe. The aim of the talk is to present an overview of this theory with recent results how additional set-theoretic assumptions, beyond ZFC, can influence behavior of these properties.

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