On some methods of extending measures

MARIAM BERIASHVILI

I. Vekua Institute of Applied Mathematics, Iv. Javakhishvili Tbilisi State University,
Georgian Technical University, Tbilisi, Georgia
email: mariam_beriashvili@yahoo.com

The measure extension problem is one of the most important question in measure theory. It is known that there exist various measures on the real line R which strictly extend the classical Lebesgue measure λ on R and are invariant under the group of all isometric transformations of R. An interesting direction in measure theory is concerned with the investigation of properties of various (countably-additive) extensions of initial measures. In this connection, there are some well-known methods of extending invariant measures: Marczewski's method; the method of Kodaira and Kakutani; the method of Kakutani and Oxtoby; the method of surjective homomorphisms.

In the present talk we discuss, several methods of extending invariant and quasi-invariant measures. Moreover, we will demonstrate several classes of measures with a different cardinality number.