İnönü-Wigner Group Contractions, Algebra Deformations and Beyond

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Abstract

I will first introduce Poincaré group as the 10-parameter group of isometries of 4-dimensional Minkowski space-time. Galilei group is obtained by its İnönü-Wigner contraction which is a formal way of taking the non-relativistic limit. The Poincaré group itself can be obtained by Ínönü-Wigner contraction of one of the de Sitter (dS) or anti-de Sitter (AdS) groups. I will comment on going to the classical limit of a quantum system as an operator algebra contraction. Further examples from mathematical physics such as supersymmetry algebras or quantum groups may be discussed within the same setting.

This talk is dedicated to the memory of **Erdal İnönü (1926-2007)**