Contribution ID: **796** Type: **Oral**

# Geometry-dependent classicality of qutrits on low-dimensional orbits

*Tuesday, 10 November 2020 17:45 (15 minutes)*

Unlike the standard statistical distribution, for some states the Wigner function takes negative values, and this property is generally considered to be an indicator of quantumness of a system. We analyze the global indicator of classicality for N-level quantum systems, which is based on the negative part of the Wigner function and defined on the orbit space of a quantum system endowed with a certain Riemannian metric. Meaning to find connections between the informational contents and geometrical characteristics of quantum states, we evaluate the global indicator of classicality of a qutrit for various metrics.

**Primary authors:** ABGARYAN, Vahagn (JINR LTP); KHVEDELIDZE, Arsen (Joint Institute for Nuclear Research); TOROSYAN, Astghik (LIT)

**Presenter:** TOROSYAN, Astghik (LIT)

**Session Classification:** Theoretical Physics

**Track Classification:** Mathematical Modeling and Computational Physics