



# TOPOLOGY SEMINAR

## Homotopical characterization of strong contextuality (part II)

By

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**Abstract:** Simplicial distributions introduced in the paper “Simplicial quantum contextuality” provide a topological approach to the study of contextuality for collections of probability distributions. The space of measurements and the space of outcomes are represented by simplicial sets, so one can ask what is the role of the homotopy theory of simplicial sets here. In this talk, we will give a homotopical characterization of strongly contextual simplicial distributions with binary outcomes, specifically those defined on the cone of a 1-dimensional space. To prove this, we introduce the corresponding category for simplicial distribution on the cone of a 1-dimensional space and give the characterization of strong contextuality in terms of this category.

**Date:** Monday, October 2, 2023

**Time:** 13:30

**Place:** ZOOM

To request the event link, please send a message to [cihan.okay@bilkent.edu.tr](mailto:cihan.okay@bilkent.edu.tr)