

**Session Program**

7-11 Apr 2025

**31st Young Scientists' Conference on  
Astronomy and Space Physics**

***High energy astrophysics & cosmology***

Zoom

# Tuesday 8 April

10:00

## High energy astrophysics & cosmology

Session | Location: Zoom

**10:00-10:45 Ultra-high-energy neutrinos and their potential origin**

**Speaker**  
Arjen van Vliet

**10:45-11:00**

**A dusty nova in the LMC: unraveling its evolution through light curve and spectra**

**Speaker**  
Mohit Singh Bisht

**11:00-11:15**

**Unveiling the origin of radio emission in TeV candidate sources with VLBI**

**Speaker**  
Janka Kőmíves

**11:15-11:30**

**Radio observations of the magnetar XTE J1810-197 with 32-m Toruń radio telescope**

**Speaker**  
Marta Cholewa

**11:30-11:45**

**Search for cosmic ray PeVatrons: gamma-ray emission from the magnetar SGR1900+14, SNR G42.8+0.6, SFR W49A region**

**Speaker**  
Anastasiia Sokareva

**11:45-12:00**

**Thermal properties and cosmic ray constraints for gamma-ray production in the Shapley Supercluster**

**Speaker**  
Valentyna Babur

**12:00-12:15**

**Implications of photon-axion oscillations on X-ray observations of the Coma cluster**

**Speaker**  
Yevhen Sahay

**12:15-12:20**

**Exploring blazar X-ray variability: NICER spectral insights and analysis**

**Speaker**  
Sangeetha Kizhakkekalam

12:20-12:25

**Accretion dynamics and emission variability in GRS 1915+105: a spectral perspective**

**Speaker**

Shahzada Akhter

12:25-12:55

**Coffee break**

12:55-13:40

**The skeleton of our Universe**

**Speaker**

Cora Uhlemann

13:40-13:55

**Gravitational force of a torus with an elliptical cross-section in outer region**

**Speaker**

Serhii Skolota

13:55-14:10

**Bayesian constraints on the quasi-rip fate of the Universe: analyzing cosmic acceleration with observational data**

**Speaker**

Sonali Borah

14:10-14:25

**Modified theory of gravity:  $f(R)$  theory**

**Speaker**

Bohdan Hovorukha

14:30