# Astronomy Seminar


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**The Chasing All Transients Constellation Hunters (CATCH) Space Mission**

**Time:** 10:00-11:00, 23 July (Tuesday), Shanghai time

**Venue：** N600（TDLI）

**Host:** Dong Lai (赖东）

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**Meeting ID:** 587110134


## Abstract:

In the era of time-domain astronomy, the operation of multi-wavelength survey telescopes is expected to lead to the discovery of numerous transient sources. In order to fully understand the properties of these transients, follow-up observations, especially X-ray follow-up observations, are very important. However, the limited number of X-ray telescopes poses a significant challenge to conducting follow-up observations on such a large number of transients. The Chasing All Transients Constellation Hunters (CATCH) is a novel space mission proposed to address this challenge. CATCH aims to deploy over one hundred micro-satellites equipped with lightweight X-ray optics, achieve robust observational capabilities through intelligent control, and conduct rapid, all-sky, uninterrupted, multi-target, multi-parameter (spectroscopic, timing, imaging, polarization), and flexible field of view follow-up observations for transients. It is anticipated that CATCH will yield significant discoveries in the era of time-domain astronomy. Here, I will present an overview of its current progress, including scientific cases, payloads, and spacecraft platform.


## Biography:

Lian Tao obtained her PhD in astrophysics from Tsinghua University in 2013. Following this, she worked as a postdoctoral scholar in the NuSTAR team at the California Institute of Technology. In 2017, she joined the Institute of High Energy Physics, Chinese Academy of Sciences, as a professor in the Key Laboratory of Particle Astrophysics. Lian plays important roles as the deputy leader of the Science Topical Panel for the Insight-HXMT mission and the Einstein Probe mission. Moreover, she is the science coordinator for the eXTP project and the Principal Investigator of the Chasing All Transients Constellation Hunters (CATCH) space mission. Her main research interests lie in X-ray binaries and space astronomy, and her work was selected as one of the top ten breakthroughs in Chinese astronomy in 2020.

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