Introduction

Editorial board *

NAS RA V. Ambartsumian Byurakan Astrophysical Observatory (BAO)

The international symposium **"Our Unstable Universe"**, marking the 80th anniversary of the **Byurakan Astrophysical Observatory (BAO)**, took place on 14–18 September 2026 at the **National Academy of Sciences of the Republic of Armenia (NAS RA)** in Yerevan, Armenia. The symposium celebrated the contributions of BAO and its founder, **Viktor Ambartsumian**, to the study of unstable phenomena and evolutionary processes in the Universe. Ambartsumian's ideas and subsequent research at BAO transformed our understanding of the dynamics and evolution of stars and galaxies. The symposium's title reflects the central place of astrophysical instability in his scientific legacy. BAO's research focused primarily on the physics of nebulae, stellar systems, and extragalactic astronomy. Among Ambartsumian's best-known contributions are the discovery of stellar associations and the prediction of activity in galactic nuclei, which became a major area of research in extragalactic astronomy. He also developed statistical methods to estimate the total population of eruptive stars in stellar aggregates. Armenian astronomy is also famous for a number of important astronomical meetings organized by and mostly held in BAO.



Figure 1. *Left panel* - Administrative building; *right panel* - 2.6 m telescope.

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The following topics were covered at the meeting:

- Astronomical Surveys, Catalogues and Databases;
- Active Sun and the Solar System;
- Stars and Nebulae;
- Star formation and Stellar Associations;
- Galaxies and Cosmology;

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- Astrochemistry and Astrobiology;
- Exoplanets;
- Theoretical Astrophysics;
- Astronomical Instrumentation;
- Astronomical Heritage, Education and Public Outreach.

The symposium brought together renowned astronomers, physicists, cosmologists, and researchers from related disciplines. The meeting provided a forum for participants to exchange perspectives on astrophysical instabilities and their role in the evolution of stars, stellar systems, and galaxies. These discussions highlighted how the questions that guided Viktor Ambartsumian's research continue to inform contemporary astrophysics.

This issue of BAO Communications presents the proceedings of the meeting. All included articles have undergone a rigorous peer-review process.