

Kazakh university first in the world to observe earliest time Gamma-Ray Burst

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The Nazarbayev University (<https://nu.edu.kz/>) Transient Telescope located at the Assy-Turgen Observatory has made a unique and groundbreaking observation of a cosmic event called gamma-ray burst (GRB). GRBs are the most powerful explosions in the Universe. Despite decades of effort from the international scientific community, their exact nature and parameters remain elusive.

They observed the gamma-ray burst GRB230328B at UT 2023-03-28 14:55:23, just 41 seconds after a trigger. This is the fastest ever optical multi-band observation of any GRB. They observe the event in green, red, and infrared bands simultaneously, which gives insight into the spectrum of the signal. These observations were possible thanks to the unique characteristics of their telescope: its fast speed and simultaneous 3-channel cameras.

The observed data is currently being analysed in-depth by a team of researchers at the Energetic Cosmos Laboratory of Nazarbayev University. Analysis is expected to shed unique light into the nature of GRBs.

Previously, the ECL team observed another event GRB201015A starting only 58 seconds after a trigger. Such an early observation allowed them to find evidence of so-called dust destruction during early evolution. Up to now, this was just a theoretical hypothesis proposed years ago by US scientists. These results are now published in the prestigious Monthly Notices of the Royal Astronomical Society journal.

To learn more about their telescope and laboratory, visit their website (<https://sites.google.com/nu.edu.kz/ecl/home>).

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For more information, or to speak with the researchers, please contact Kyle Grizzell from BlueSky Education on +44 (0) 1582 790709 or kyle@bluesky-pr.com