Contribution ID: **12** Type: **Oral**

AMEGO-X: Status and plans

Wednesday 14 May 2025 09:50 (25 minutes)

Gamma-ray and multimessenger astrophysics are frontiers for discovery and uniquely provide access to the extreme processes that sculpt the universe. As a priority theme of the Astro2020 Decadal Survey report: New Messengers New Physics, this science is poised to revolutionize our understanding of the extreme universe. The All-sky Medium Energy Gamma-ray Observatory eXplorer (AMEGO-X) is designed to identify and characterize gamma rays from extreme explosions and accelerators. AMEGO-X will probe the medium energy gamma-ray band using a single instrument with sensitivity up to an order of magnitude greater than previous telescopes in the energy range 100 keV to 1 GeV and as low as 25 keV for transient sources.
During its proposed baseline 3 year mission, AMEGO-X will observe nearly the entire sky every two orbits, building up a sensitive all-sky map of gamma-ray sources and emission. It will also access >50% (<10 MeV) and >20% (>10 MeV) of the sky instantaneously, maximizing transient detections and rapid alerts, openly distributed to the astrophysics communities. As a result, AMEGO-X will deliver breakthrough discoveries for a MIDEX class in areas highlighted as the highest scientific priority for Explorer-scale missions in the Astro2020 Decadal Survey Report: gravitational waves, multimessenger astrophysics and time-domain astronomy. This talk presents an overview of the science, instrument, and mission and the current status of the technology development.

Eligibility for ”Best presentation for young researcher” or ”Best poster for young researcher” prize

No

Author: CAPUTO, Regina (NASA Goddard Space Flight Center)

Presenter: CAPUTO, Regina (NASA Goddard Space Flight Center)

Session Classification: Instrumentation and missions for direct X-ray and gamma-ray measurements