



For Future Beautiful & Sustainable Space Environment and Utilization



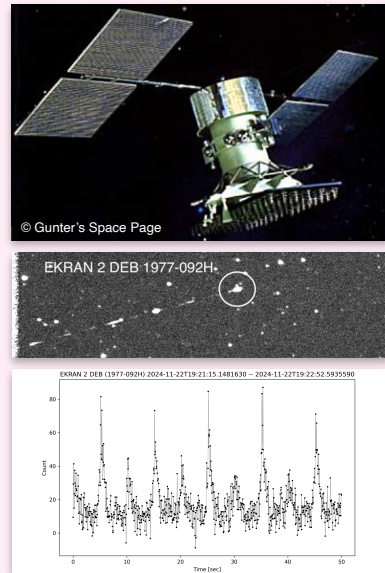
What shape is space debris? How was it created?

► Estimating State and Origin of Space Debris through Optical Observations

Russian Geostationary satellite
“EKRAN 2” exploded in 1978

Observing fragments and estimating
their **surface characteristics** and
shape based on **changes in
brightness** (light curves)

Investigate the scale of the EKRAN 2
fragmentation and **discover new
unknown debris** from EKNRA 2!



How bright are Starlink?

► Investigation in satellite constellation mitigation for ground-based astronomy

Low-Earth orbit satellites, with **tens of
thousands of launches** planned over
the next few years

Bright reflections from satellites
interfere with astronomy observation

Assess **how bright** reflected light from
the **Starlink** communication satellites is
in order to do **situational awareness of
the night sky!**

