

Roman Telescope to Help Untangle Galaxy Growth, Dark Matter Makeup

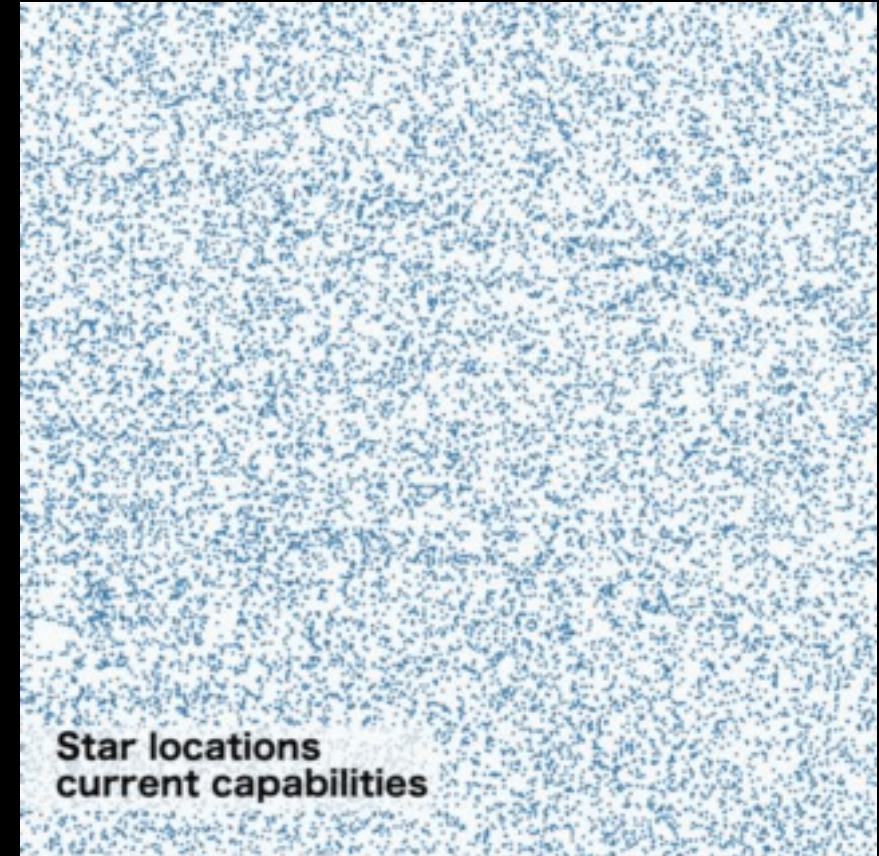


When gravitationally bound clusters of stars orbit around galaxies, they can become disrupted and leave behind streams of stars. Studying these streams can help us understand the distribution of mass in a galaxy, including the mysterious dark matter.

The Nancy Grace Roman Space Telescope will be able to study these wispy streams of stars that extend far beyond the apparent edges of many galaxies. Missions like the Hubble and James Webb space telescopes would have to patch together hundreds of small images to see these structures around nearby galaxies in full. Roman will do so in a single snapshot.

Astronomers will use these observations to explore how galaxies grow and the nature of dark matter.

Astronomers at Goddard are getting ready for the launch of Roman by simulating how bright these stellar streams may be and preparing strategies about how to observe them. Goddard manages the Roman mission with participation from partners around the world.



This animation shows simulated stellar streams amid a realistic background of stars in the Andromeda galaxy.