



π IN THE SKY¹¹

Determine how much data an Earth orbiter can collect. It's possible with π !

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ORBIT OBSERVATION

NISAR is an Earth-orbiting satellite mission designed to measure centimeter-scale movements and other changes to Earth's land- and ice-covered surfaces twice every 12 days – a scale of coverage and sampling never before achieved.

Using a technique called Synthetic Aperture Radar, NISAR will produce more than 85 terabytes of data products every day (1 TB = 1,000 gigabytes) that will allow scientists to better monitor and mitigate natural disasters and understand the effects of climate change.

NISAR has an imaging swath of 240 kilometers, but the ground track spacing is 231 km to allow overlap between swaths. Given that Earth's radius is 6,371 km, how many orbits are executed in one day? How much data is produced per orbit on average?

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