

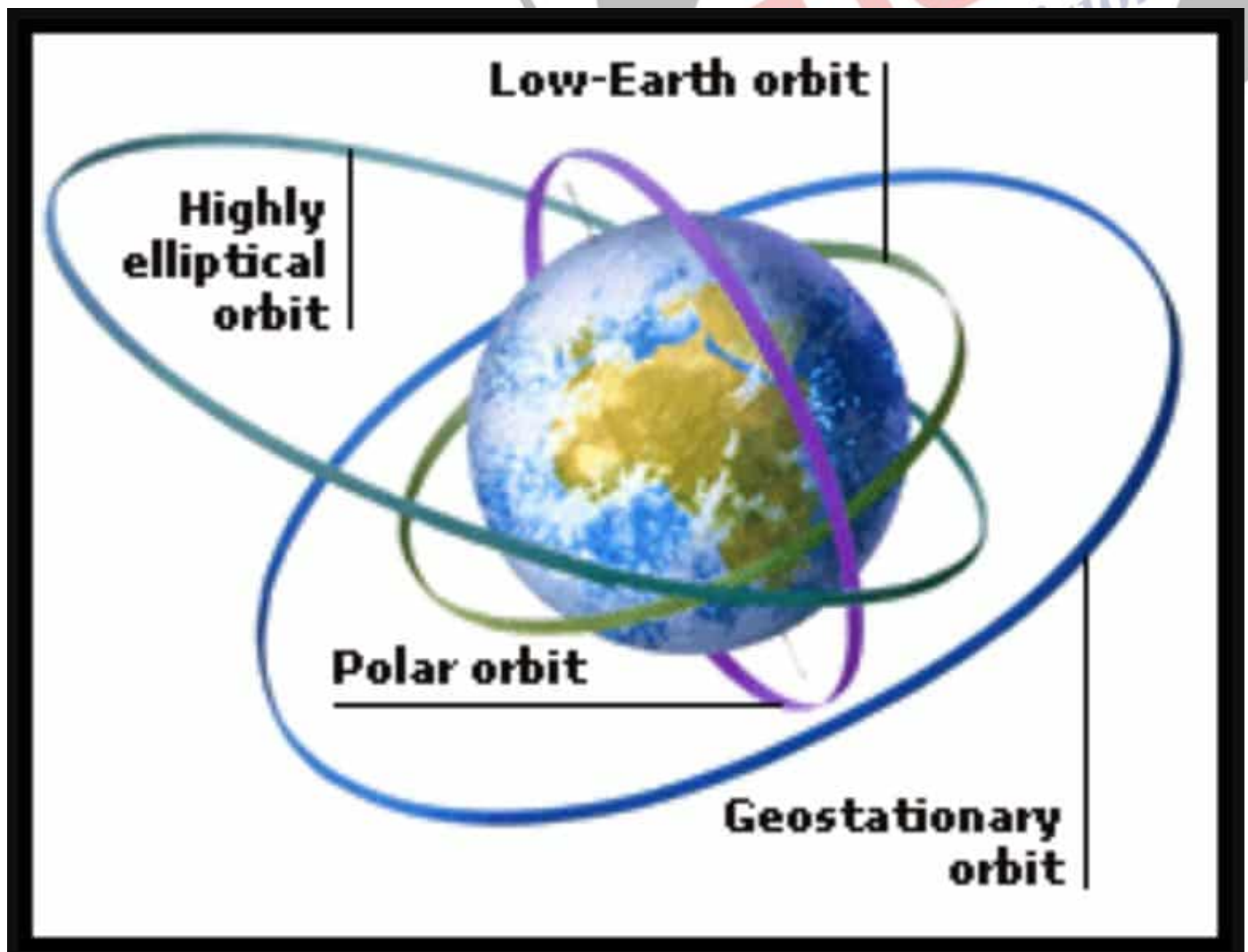


Fram2 Mission and Polar Orbit

[Source: TH](#)

SpaceX has launched the **Fram2 mission**, which lifted off aboard a [SpaceX Crew Dragon capsule](#) from NASA's Kennedy Space Center in Florida.

- This private spaceflight is the **first human mission to follow a polar orbit** (a trajectory never before traveled by humans) and aims to conduct research on spaceflight's impact on the **human body during a free-flying mission**.
- **Polar Orbit:** It is a type of **low Earth orbit (200-1000 km altitude)** where satellites travel around Earth from, roughly, **one pole to the other** (may deviate up to 10 degrees from exact polar orbit), rather than from west to east.
 - These **orbits are ideal for global Earth observation** as they provide complete surface coverage.



▪ **Traveling Through Polar vs Equatorial Orbit:**

Aspect	Polar Orbit	Equatorial Orbit
Radiation Exposure	Higher , due to weaker magnetic field at poles	Lower, protected by Earth's magnetic field
Fuel Requirements	Higher, no rotational boost, more energy-intensive	Lower, benefits from Earth's eastward rotation
Rescue and Recovery	More complex, remote polar regions , delayed support	Easier, established recovery zones like Atlantic/Pacific
Communications	Challenging, limited ground stations at poles, mitigated recently	Easier, mid-latitude ground stations well-supported
Historical Use	Rare for crewed, common for satellites , past projects canceled	Common, e.g., ISS, Shuttle missions , well-established

Read more: [India's Satellite Launch by SpaceX](#)

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