



KAMARAJ IAS ACADEMY
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Dust EXperiment (DEX) - ISRO

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News Context: ISRO confirmed (Jan 2026) that one interplanetary dust particle (IDP) enters the Earth's atmosphere every 16 minutes.

- **The Mission:** DEX was a payload on the PSLV Orbital Experimental Module (POEM) during the PSLV-C58/XPoSat mission (2024).
 - **Significance:** It is India's first cosmic dust detector. It uses the hypervelocity principle to detect particles moving at over 4 km/s.
 - **Impact:** 1. **Spacecraft Safety:** Protecting satellites from "sandblasting" effects.
2. **Planetary Science:** Understanding the "Meteor Layer" and atmospheric composition.
- **Future:** DEX provides a blueprint for studying dust on Mars, Venus, and the Moon.

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