



## NASA's Punch Mission

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- PUNCH, which stands for “**Polarimeter to Unify the Corona and Heliosphere,**” is focused on understanding the transition of particles from the Sun’s outer corona to the solar wind that fills interplanetary space.
- PUNCH will consist of a **constellation of four suitcase-sized microsats** that will orbit the Earth and study how the corona, which is the atmosphere of the Sun, connects with the interplanetary medium.
- The mission will also image and track the solar wind and coronal mass ejections, which are huge masses of plasma that get thrown out of the Sun’s atmosphere. The coronal mass ejections can affect and drive space weather events near the Earth.
- There is also a plan to observe the Sun using joint observations from PUNCH and Indian mission Aditya, which is underway. India is planning to send up its own satellite Aditya-L1 with an aim to study the Sun’s corona.
- The mission is expected to be **launched in the year 2022.**

### Note

- **Corona:** It is the outermost region of the Sun’s atmosphere, consisting of plasma (hot ionized gas).
- **Solar Wind:** It is the constant stream of solar coronal material that flows off the sun.
- **Interplanetary Medium:** It refers to thinly scattered matter that exists between the planets and other bodies of the solar system, as well as the forces (e.g., magnetic and electric) that pervade this region of space. The material components of the interplanetary medium consist of neutral hydrogen, plasma gas comprising electrically charged particles from the Sun, cosmic rays, and dust particles.