

The background is a dark blue gradient with faint, light blue circular patterns and a degree scale on the left side. The scale ranges from 140 to 260 degrees in increments of 10. There are also some circular arrows and dashed lines scattered across the background.

# ASSURING COMMUNICATION BETWEEN CAPSULE AND ORBITAL STATION

..IEEE ISSATM RAS CHAPTER

## SOLUTION :

- Communicating from the capsule on space relies on two things: a transmitter and a receiver . The transmitter encodes the message onto Laser through modulation, which changes the properties of the data. The Laser flow through space toward the receiver .the latter receives the information which was transmitted by the transmitter through the Laser and demodulate them , to decode the sender's message .that's why we suggest to use a satellite dish to make this communication easier .



- Added to that we will add two sensors : one to the satellite dish and another one to the orbital station.
- The Laser 'communication systems provide missions with increased data rates, meaning they can send and receive more information in a single transmission compared to traditional radio waves. Additionally, the systems are lighter, more flexible, and more secure. Laser communications can supplement radio frequency communications, which most NASA missions use today.
- But this solution could be distracted by various obstacles such as the climatic factors and meteors . that's why NASA is continuing to accept proposals for new experiments to help refine optical technologies, increase knowledge, and identify future applications.





- So We think about obstacles that can perforate the laser ; we can avoid that issue with telescopes
- The telescopes will watch around the moon if there are obstacles in front of one of the lasers the other will work and if the two are objected so other satellite will work .
- .<https://www.nasa.gov/feature/goddard/2022/the-future-of-laser-communications>

