
Technician Question Pool

July 2018 to June 2022

The MORE Project

<http://n2re.org/m-o-r-e-project>



Operating Procedures

No-Nonsense pages 74 - 76

Amateur Satellite Operation

Making contacts via amateur radio satellites and other space stations is one of the coolest things a ham can do. As a Technician Class licensee, you will have the privileges to do this.



T1B02

Which amateur radio stations may make contact with an amateur radio station on the International Space Station (ISS) using 2 meter and 70 cm band frequencies?

- A. Only members of amateur radio clubs at NASA facilities
- B. Any amateur holding a Technician or higher-class license
- C. Only the astronaut's family members who are hams
- D. Contacts with the ISS are not permitted on amateur radio frequencies



T1B02

Which amateur radio stations may make contact with an amateur radio station on the International Space Station (ISS) using 2 meter and 70 cm band frequencies?

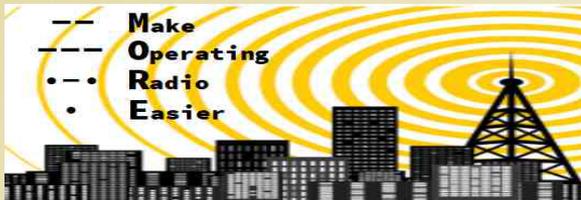
- A. Only members of amateur radio clubs at NASA facilities
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T8B08

What is meant by the statement that a satellite is operating in mode U/V?

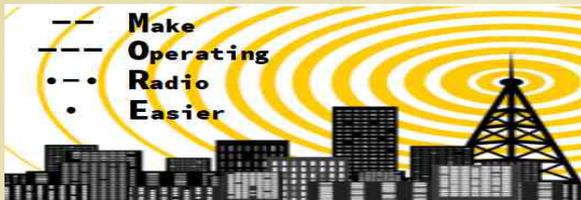
- A. The satellite uplink is in the 15 meter band and the downlink is in the 10 meter band
- B. The satellite uplink is in the 70 centimeter band and the downlink is in the 2 meter band
- C. The satellite operates using ultraviolet frequencies
- D. The satellite frequencies are usually variable



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T8B04

What mode of transmission is commonly used by amateur radio satellites?

- A. SSB
- B. FM
- C. CW/data
- D. All of these choices are correct

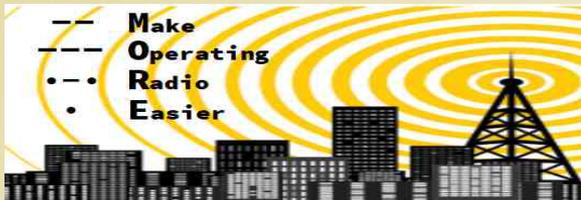


OP4 Q3 of 13

T8B04

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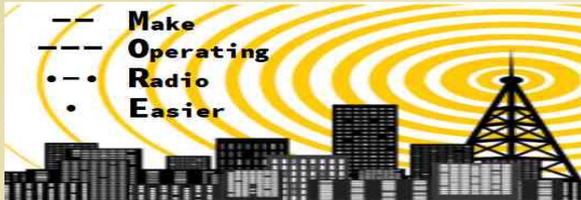
- A. SSB
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T8B02

What is the impact of using too much effective radiated power on a satellite uplink?

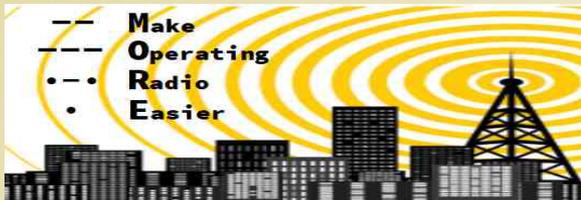
- A. Possibility of commanding the satellite to an improper mode
- B. Blocking access by other users
- C. Overloading the satellite batteries
- D. Possibility of rebooting the satellite control computer



T8B02

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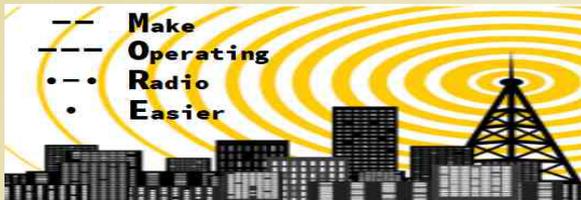
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T8B12

Which of the following is a good way to judge whether your uplink power is neither too low nor too high?

- A. Check your signal strength report in the telemetry data
- B. Listen for distortion on your downlink signal
- C. Your signal strength on the downlink should be about the same as the beacon
- D. All of these choices are correct



T8B12

Which of the following is a good way to judge whether your uplink power is neither too low nor too high?

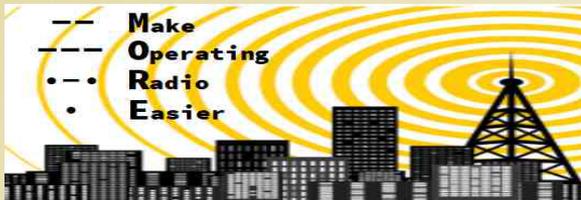
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T8B10

What do the initials LEO tell you about an amateur satellite?

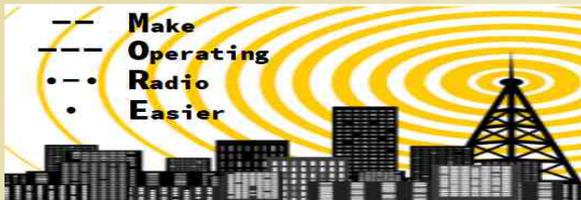
- A. The satellite battery is in Low Energy Operation mode
- B. The satellite is performing a Lunar Ejection Orbit maneuver
- C. The satellite is in a Low Earth Orbit
- D. The satellite uses Light Emitting Optics



T8B10

What do the initials LEO tell you about an amateur satellite?

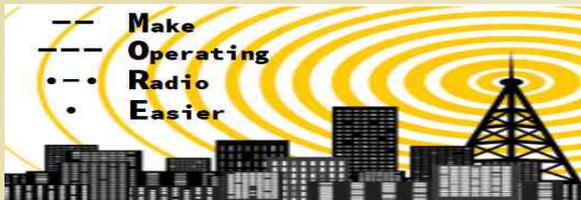
- A. The satellite battery is in Low Energy Operation mode
- B. The satellite is performing a Lunar Ejection Orbit maneuver
- C. The satellite is in a Low Earth Orbit**
- D. The satellite uses Light Emitting Optics



T8B05

What is a satellite beacon?

- A. The primary transmit antenna on the satellite
- B. An indicator light that shows where to point your antenna
- C. A reflective surface on the satellite
- D. A transmission from a satellite that contains status information

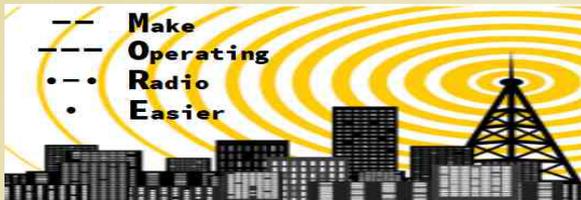


OP4 Q7 of 13

T8B05

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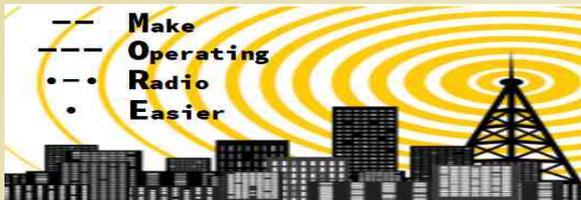
- A. The primary transmit antenna on the satellite
- B. An indicator light that shows where to point your antenna
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T8B01

What telemetry information is typically transmitted by satellite beacons?

- A. The signal strength of received signals
- B. Time of day accurate to plus or minus 1/10 second
- C. Health and status of the satellite
- D. All of these choices are correct



T8B01

What telemetry information is typically transmitted by satellite beacons?

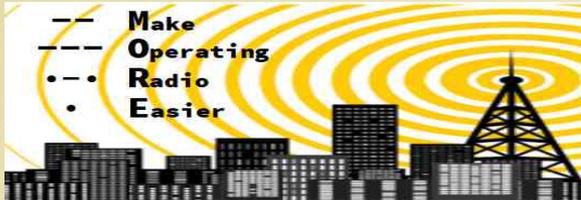
- A. The signal strength of received signals
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T8B11

Who may receive telemetry from a space station?

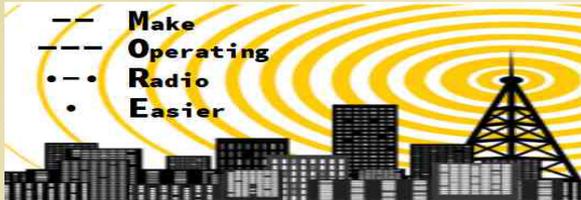
- A. Anyone who can receive the telemetry signal
- B. A licensed radio amateur with a transmitter equipped for interrogating the satellite
- C. A licensed radio amateur who has been certified by the protocol developer
- D. A licensed radio amateur who has registered for an access code from AMSAT



T8B11

Who may receive telemetry from a space station?

- A. Anyone who can receive the telemetry signal**
- B. A licensed radio amateur with a transmitter equipped for interrogating the satellite
- C. A licensed radio amateur who has been certified by the protocol developer
- D. A licensed radio amateur who has registered for an access code from AMSAT



T8B03

Which of the following are provided by satellite tracking programs?

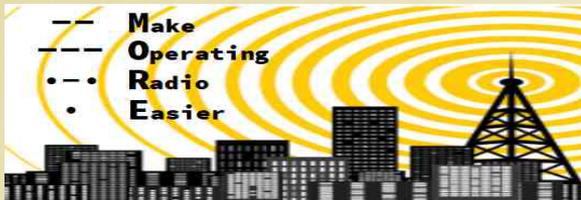
- A. Maps showing the real-time position of the satellite track over the earth
- B. The time, azimuth, and elevation of the start, maximum altitude, and end of a pass
- C. The apparent frequency of the satellite transmission, including effects of Doppler shift
- D. All of these choices are correct



T8B03

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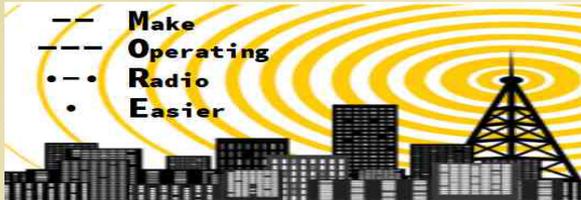
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T8B06

Which of the following are inputs to a satellite tracking program?

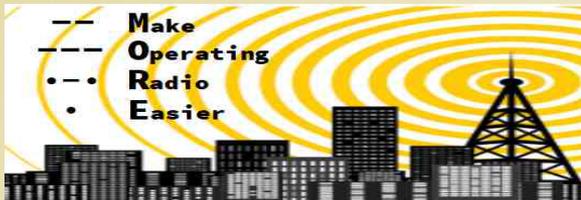
- A. The weight of the satellite
- B. The Keplerian elements
- C. The last observed time of zero Doppler shift
- D. All of these choices are correct



T8B06

Which of the following are inputs to a satellite tracking program?

- A. The weight of the satellite
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- C. The last observed time of zero Doppler shift
- D. All of these choices are correct



T8B07

With regard to satellite communications, what is Doppler shift?

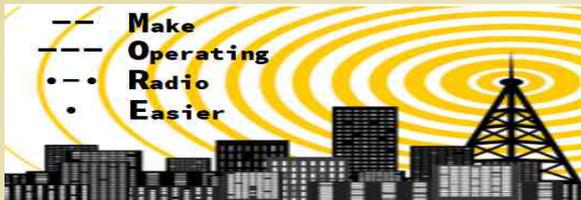
- A. A change in the satellite orbit
- B. A mode where the satellite receives signals on one band and transmits on another
- C. An observed change in signal frequency caused by relative motion between the satellite and the earth station
- D. A special digital communications mode for some satellites



T8B07

With regard to satellite communications, what is Doppler shift?

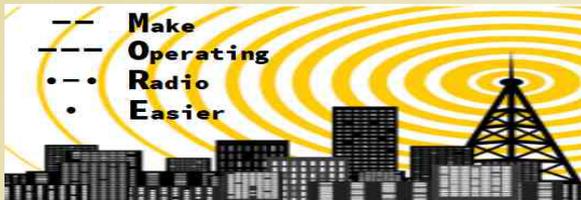
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T8B09

What causes spin fading of satellite signals?

- A. Circular polarized noise interference radiated from the sun
- B. Rotation of the satellite and its antennas
- C. Doppler shift of the received signal
- D. Interfering signals within the satellite uplink band



OP4 Q13 of 13

T8B09

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A non-profit initiative by the IEEE and ARDC to increase the numbers of youth (12-18) and non-males in Amateur Radio. Participants earn FCC licenses and receive free 2-way radios.

For MORE information: n2re.org/m-o-r-e-project
Dr. Rebecca Mercuri, Grant Administrator, rtmercuri@ieee.org

