

Chapter 3.0 Propagation

Section 3.1 Solar Activity

G3A01 (A) p.67

What is the significance of the sunspot number with regard to HF propagation?

- A. Higher sunspot numbers generally indicate a greater probability of good propagation at higher frequencies
- B. Lower sunspot numbers generally indicate greater probability of sporadic E propagation
- C. A zero sunspot number indicate radio propagation is not possible on any band
- D. All of these choices are correct.

G3A03 (C) p.68

Approximately how long does it take the increased ultraviolet and X-ray radiation from solar flares to affect radio propagation on the Earth?

- A. 28 days
- B. 1 to 2 hours
- C. 8 minutes
- D. 20 to 40 hours

G3A05 (D) p.67

What is the solar flux index?

- A. A measure of the highest frequency that is useful for ionospheric propagation between two points on the Earth
- B. A count of sunspots which is adjusted for solar emissions
- C. Another name for the American sunspot number
- D. A measure of solar radiation at 10.7 centimeters wavelength

G3A09 (C) p.66

What effect does a high sunspot number have on radio communications?

- A. High-frequency radio signals become weak and distorted
- B. Frequencies above 300 MHz become usable for long-distance communication
- C. Long-distance communication in the upper HF and lower VHF range is enhanced
- D. Microwave communications become unstable

G3A10 (C) p.67

What causes HF propagation conditions to vary periodically in a 28 day cycle?

- A. Long term oscillations in the upper atmosphere
- B. Cyclic variation in the Earth's radiation belts
- C. The Sun's rotation on its axis
- D. The position of the Moon in its orbit

G3A11 (D) p.67

Approximately how long is the typical sunspot cycle?

- A. 8 minutes
- B. 40 hours
- C. 28 days
- D. 11 years

G3A14 (B) p.68

How are radio communications usually affected by the charged particles that reach the Earth from solar coronal holes?

- A. HF communications are improved
- B. HF communications are disturbed
- C. VHF/UHF ducting is improved
- D. VHF/UHF ducting is disturbed

G3A15 (D) p.69

How long does it take charged particles from coronal mass ejections to affect radio propagation on the Earth?

- A. 28 days
- B. 14 days
- C. 4 to 8 minutes
- D. 20 to 40 hours