A Snapshot of Propagation Characteristics Observed by TIGER

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Vertical Sounding

(After UMLowell)

IDEALIZED DAYTIME IONOGRAM

(from McNamara, 1991)
Oblique Sounding

Magnetic field lines

Ionospheric backscatter
0.5 hop

1 hop ground or sea backscatter

Ionospheric backscatter
1.5 hops

Ray penetrates
Height of maximum electron density

Lower limit of ionosphere

RANGE

Group Delay (μs)

Frequency (MHz)
Backscatter Sounding

HEIGHT OF MAXIMUM DENSITY
BASE OF IONOSPHERE
T - SKIP DISTANCE - Z MID-POINT Q R

Leading Edge
F2
F1
E
TIGER Oblique Backscatter Ionograms

Beam 4
8-20 MHz
Scan Time of 6 min
Repeat every 15 min
19-20 Feb 2000
Antenna Patterns
Plus Thresholding