ACTS Fade Analysis Beyond 2000

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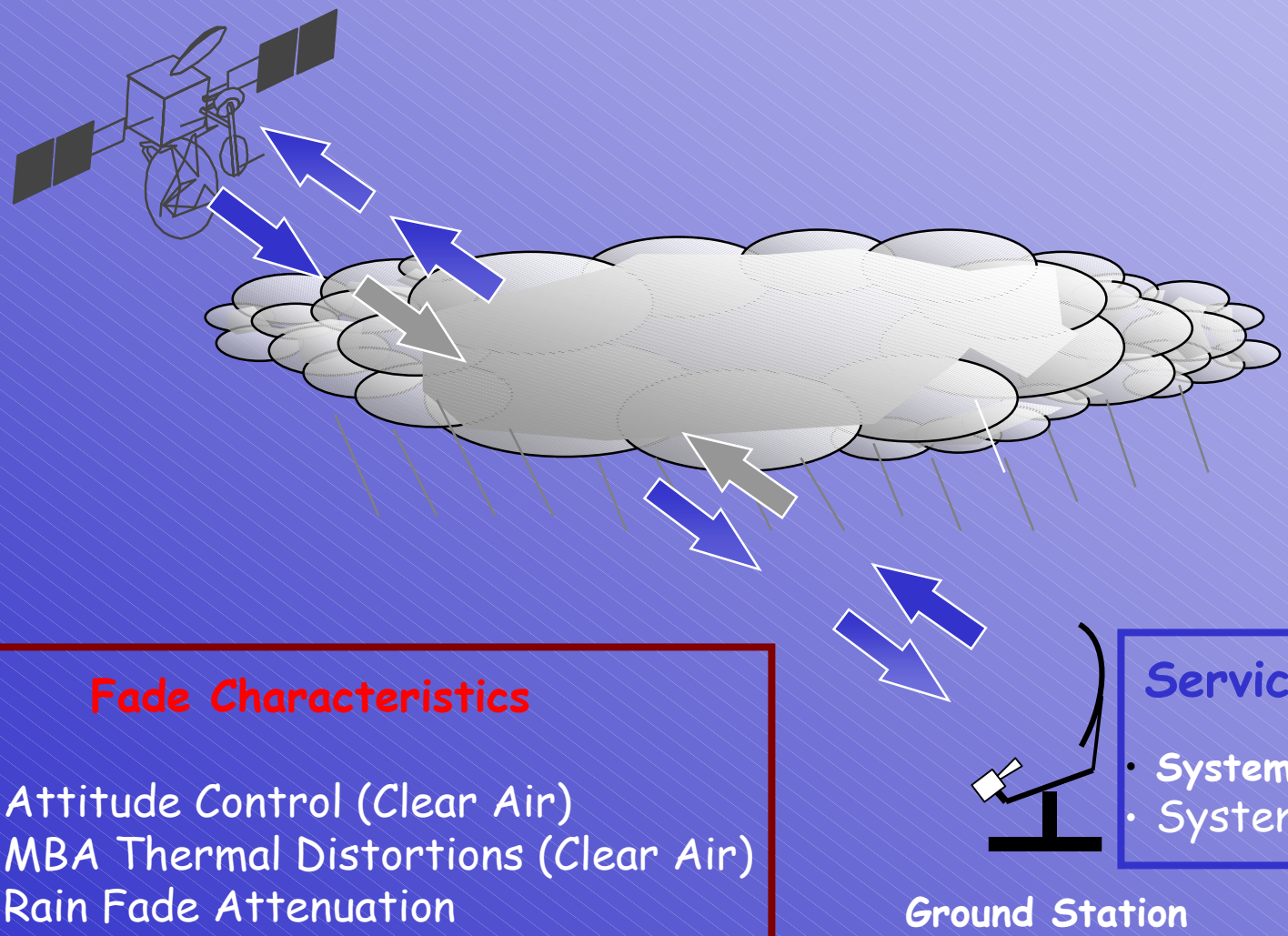

Fade Characteristics

- Attitude Control (Clear Air)
- MBA Thermal Distortions (Clear Air)
- Rain Fade Attenuation

Service Quality

- System Margin
- System Availability

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Attitude Control Error Analysis

Earth Sensor

Pointing Error Magnitude		*MBA Fade*	*STEERABLE A Fade*
Roll (N-S)	+/- 0.1 ^{0}	< 2.3 dB	< 0.63 dB
Pitch (E-W)	+/- .05 ^{0}	< 1.1 dB	< 0.32 dB
RSS		max 2.6 dB	max 0.71 dB

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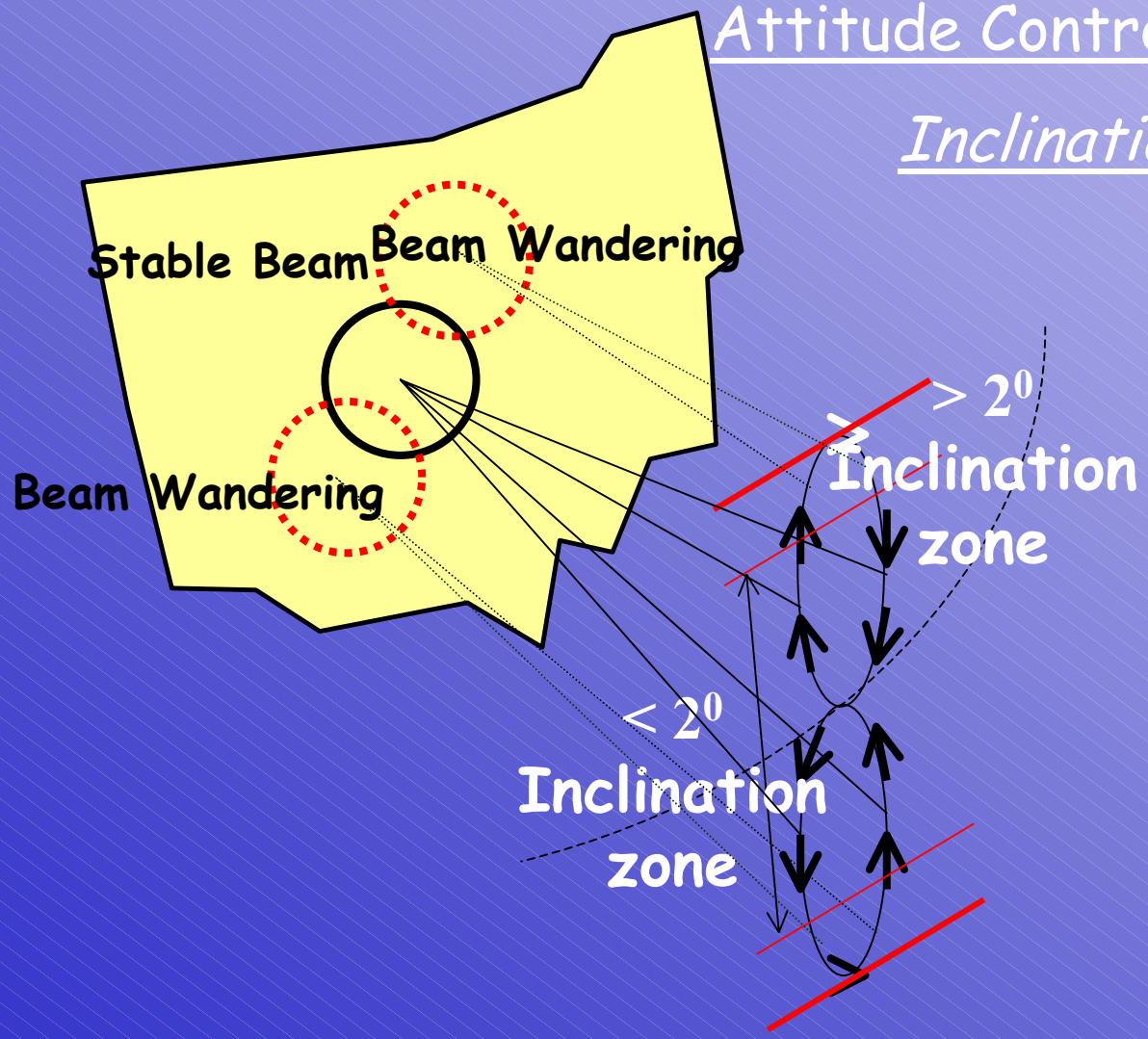
Attitude Control Error Analysis

Inclination Control



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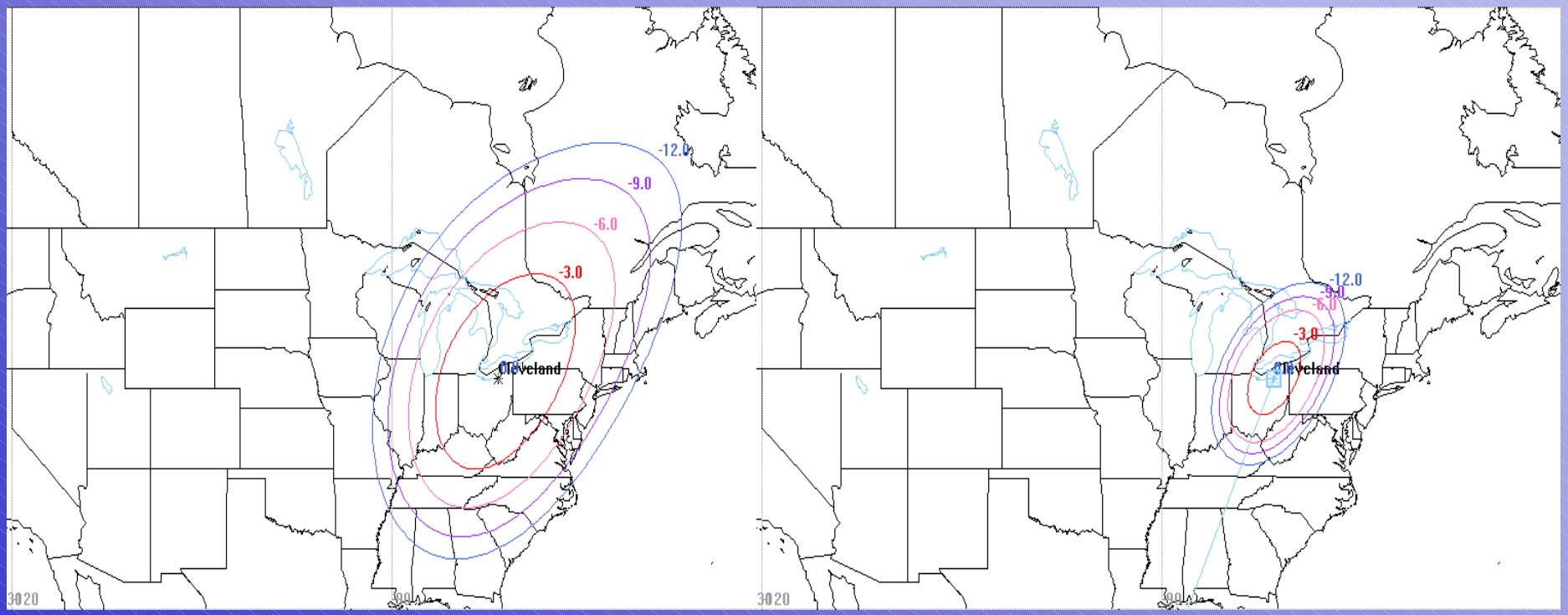

Steerable Antenna

Dia = 1.1 m

HPBW = 0.95 Degrees (450 miles)

Multibeam Antenna

Dia = 3.3 m

HPBW = 0.3 degrees (150 miles)

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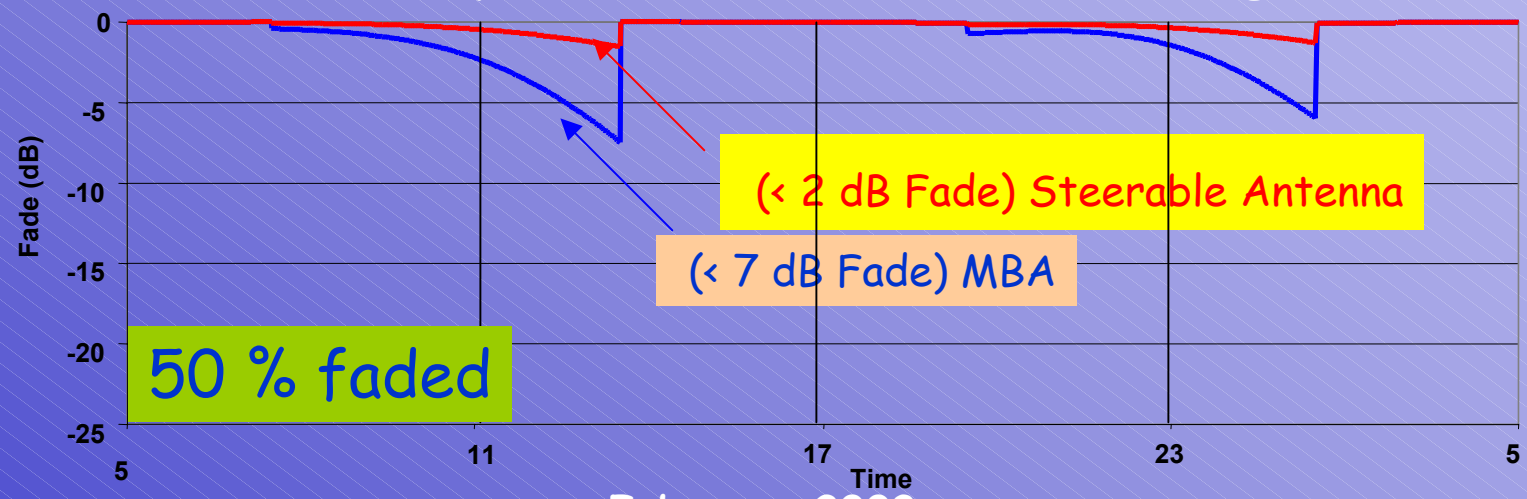
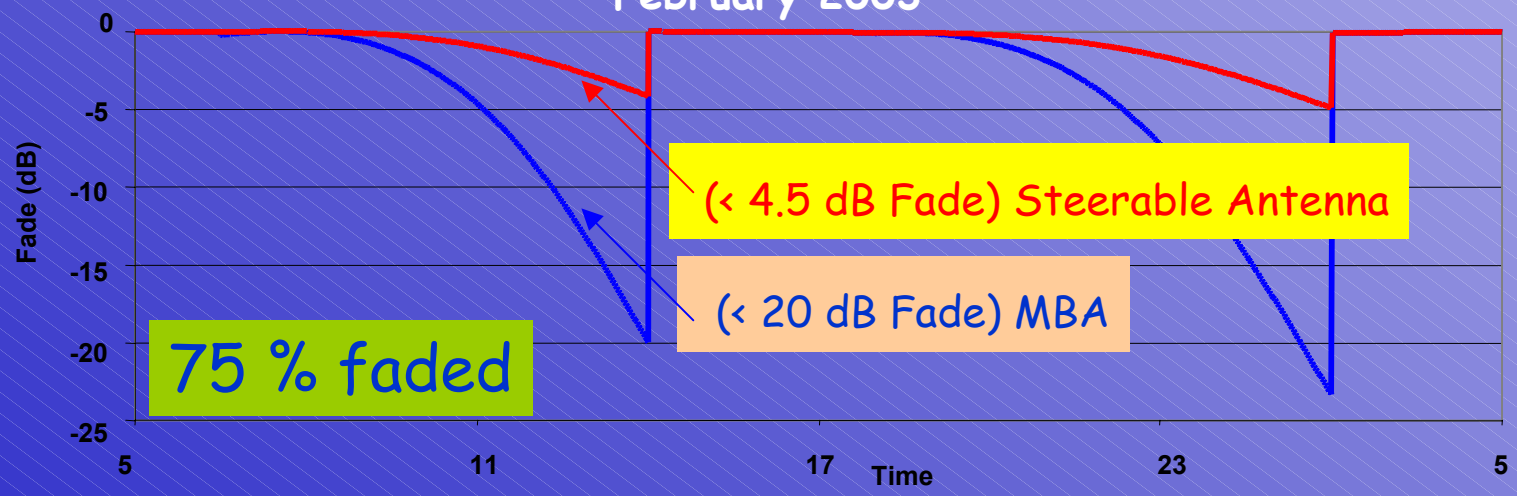
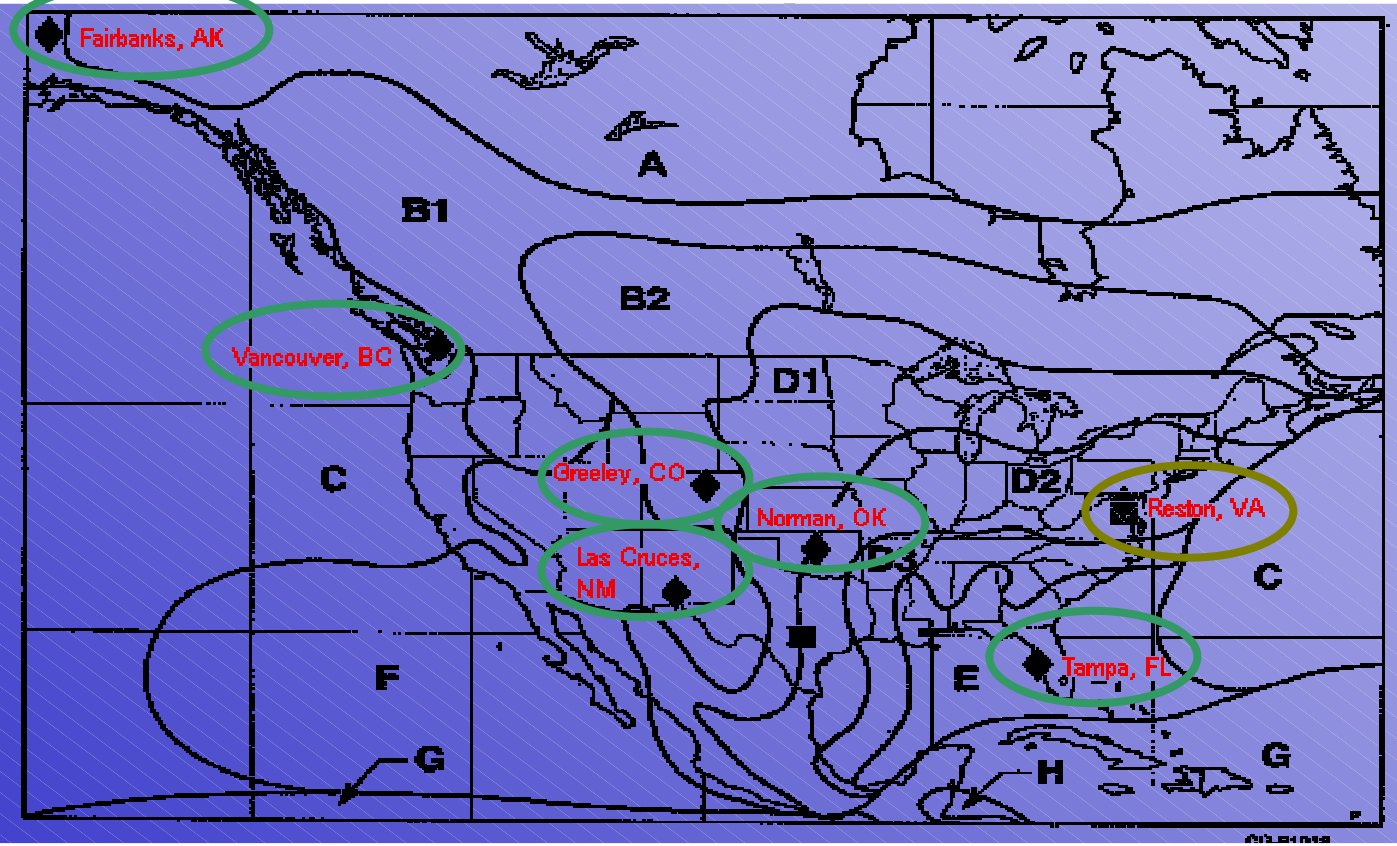
February 2002 (*Inclination Exceeds 2 degrees*)



February 2003



Ka Band Measurements Sites



20 GHz and 30 GHz - 35 Station Years

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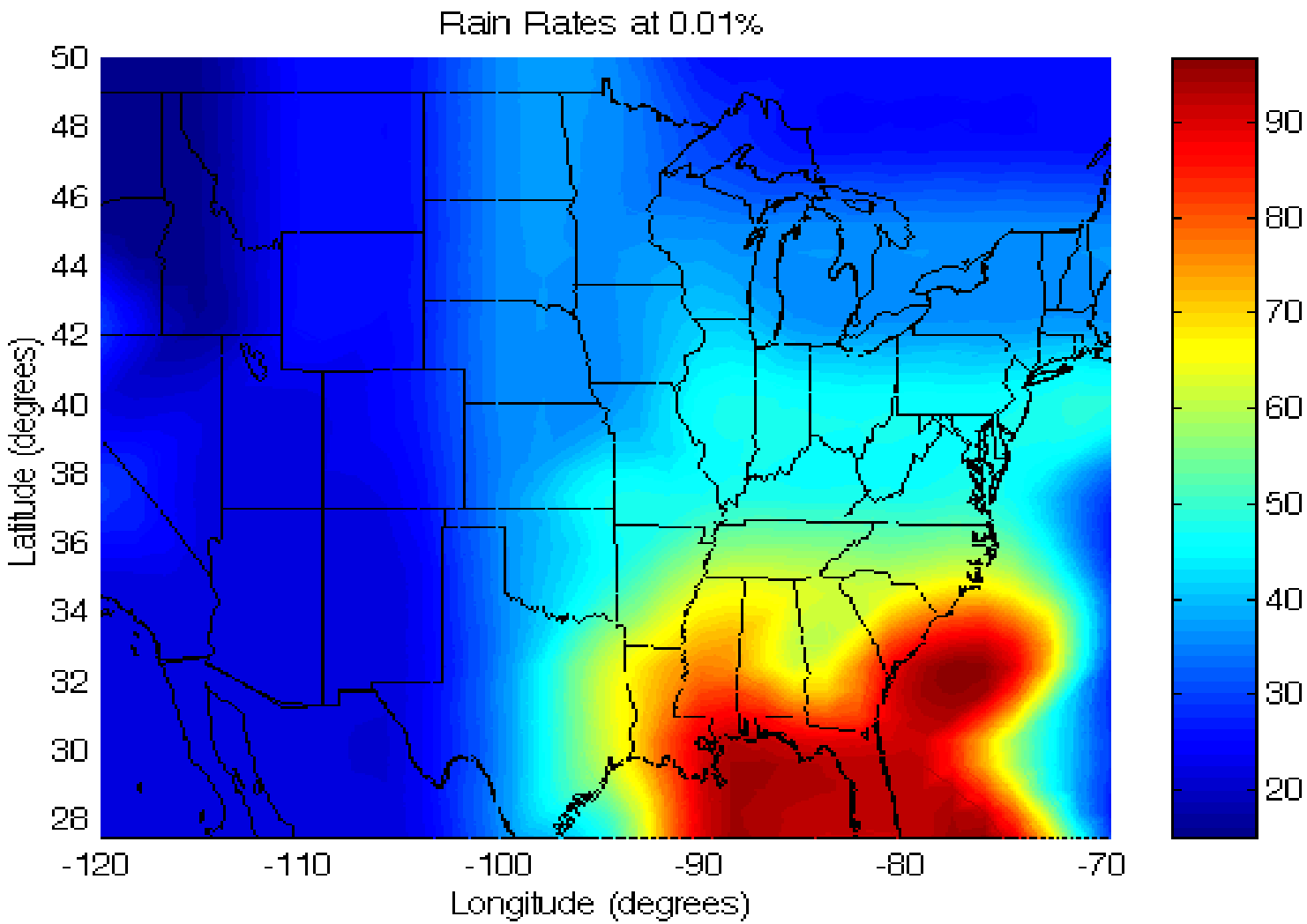
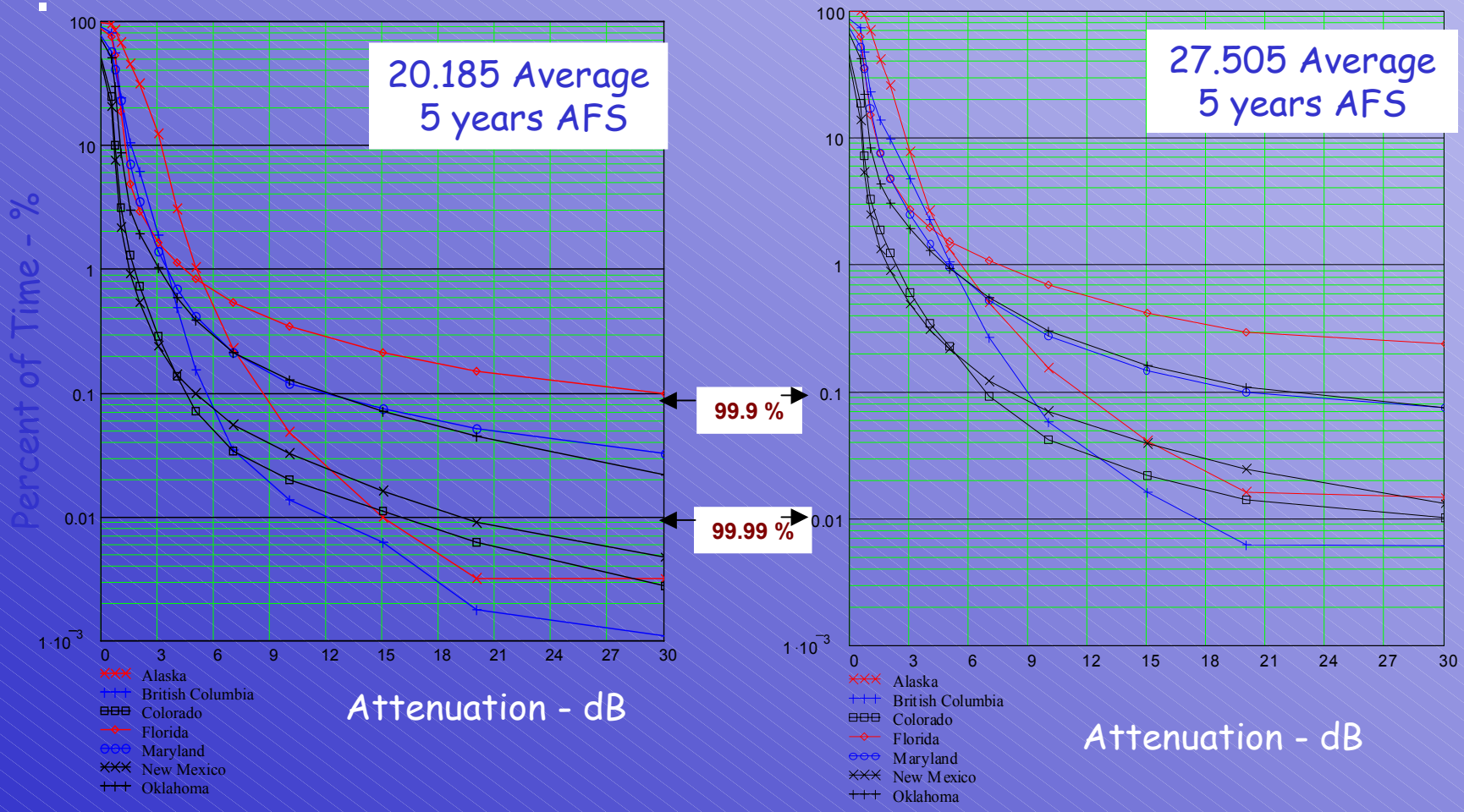


ACTS Fade Analysis

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