Observations of the Sun and Search for CasA with AMBER

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Expectations: at 4GHz Minimum detectable threshold: ~150 Jy Sun intensity: ~1.3x10⁶ Jy CasA intensity: ~7x10³ Jy

Sun Data for Horizontal C-Band Channels (baselines rescaled to match C1H)



AMBER Noise Bimodal



Largest Sun SNR: ~200 But we expect ~1000

Smoothing Algorithm

Two problems: 1. Noise is bimodal 2. Anthropogenic peaks

Algorithm:

Boxcar averaging and peak elimination at multiples scales

Boxcar with 2s (20 samples) window
Find and eliminate peaks < 15s wide
Boxcar with 10s (100 samples) window
Find and eliminate peaks < 15s wide
Boxcar with 20s (200 samples) window
Find and eliminate peaks < 15s wide
Boxcar with 40s (400 samples) window
Find and eliminate peaks < 15s wide

Sun Data for Horizontal C-Band Channels (baselines rescaled to match C1H)





CasA results: day1



Day 1



Day 2





