## **Broadband Optical Emissions** ISR beam @ Already-split auroral arc magnetic zenith 9 degree FOV 0 (b) (a) (c) (d) (e) Incoherent Scatter Radar: magnetic zenith beam power (b) (c) (d) Ion Line: Power Spectral Density (f) (g) (h) 500 400 400 400 altitude [km] 300 300 28 200 200 24 100 100 -5 0 5 frequency [kHz] 10 -15 -10 15 -5 0 5 frequency [kHz] -10 10 15 15 -15 -10 10 frequency [kHz] Plasma Line: Power Spectral Density Plasma line 2013-04-14 10:34:35 Plasma line 2013-04-14 10:34:35 (j) slant range [km] 400 300 200 78 78 100 75 75 5.0 -5.0 -4.5 -4.0 -3.5 3.5 4.0 4.5 5.5 -5.5 Doppler frequency [MHz] Doppler frequency [MHz]