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Panel Discussion of Vertical Winds

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FPI Wind Determinations $\begin{cases} H \\ V \end{cases}$

Critical Need: For Doppler Shift - Zero Veloc. Ref. Line

Solution: Primary & Secondary Std Ref. Sources

$$\lambda_{acc} : 1:10^8 \text{ (3 m/s)}$$

Thermosphere:	① ~ 250 km O* ('D → 3P)	$\lambda = 630.0308 \pm 0.0004 \text{ nm}$ $T_{rad} \sim 150 \text{ s}$	$\leftarrow \sim 200 \text{ m/s}$ $\pm 1\sigma$
<u>Forbidden</u> Transitions	② ~ 110 km O* ('S → 'D)	$\lambda = 557.7344 \text{ nm}$ $T_{rad} \sim 0.7 \text{ s}$	

Available Data: Allowed Transitions (Ne) $1:10^8$

∴ Secondary Std Sources

→ But to what do you refer the secondary ??? ←

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- a) Primary Std^{*}: Oxygen Rd/Gn Line Source.
- b) Secondary Stds: Ce (630.02 nm)
Ne (several)

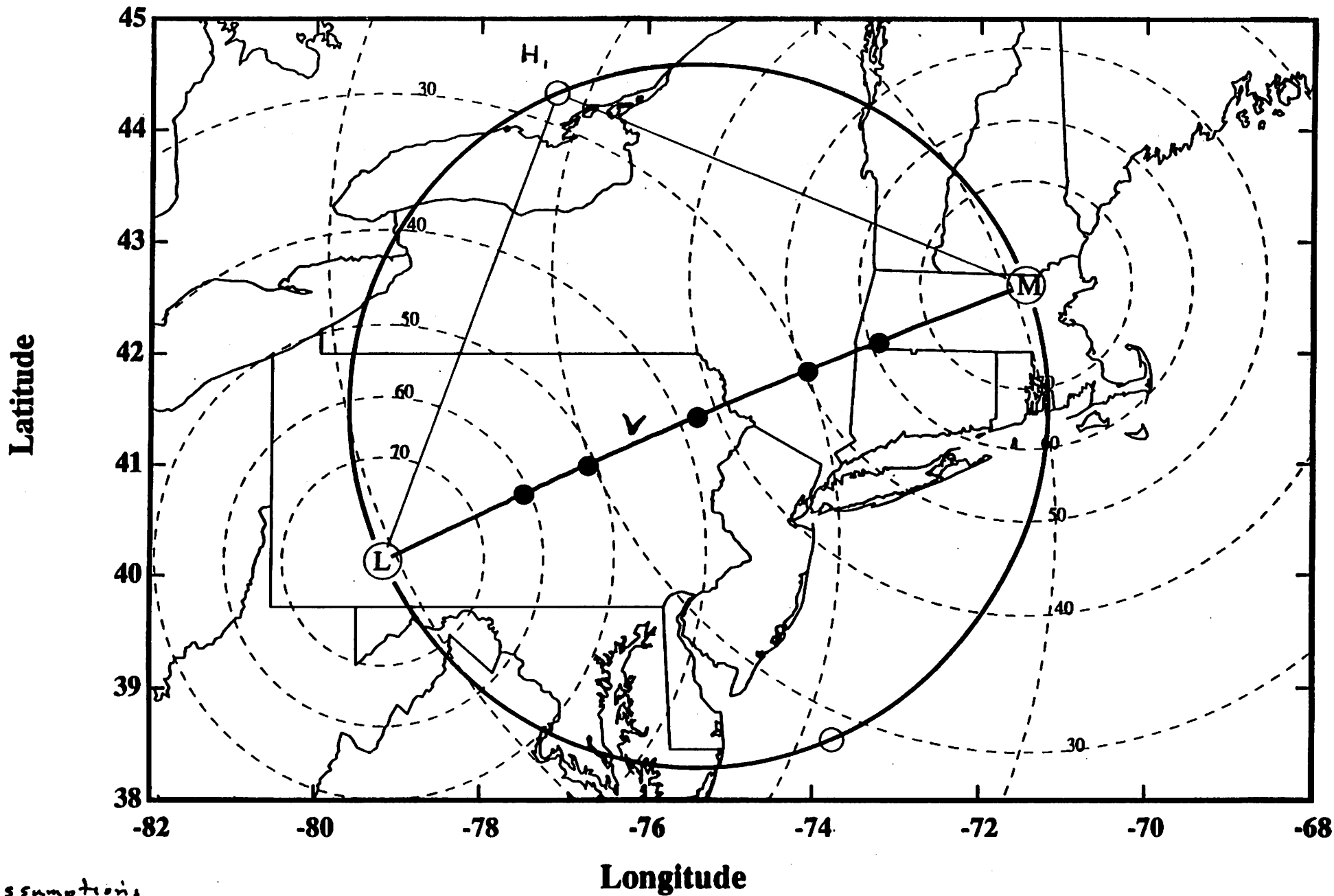
Primary
630.0
& 557.7

Requirements for use in FPI:

- ① Reasonable Line Intensity
- ② Negligible neighboring continuum
- ③ Unshifted Line

}	Drift motion
	Pressure Shift (neutrals)
	Plasma Shift

* G. Shepherd & L. Cogger - colleagues - decades ago



Assumptions

Vertical wind field uniform
and/or
Horizontal wind field uniform

MIT/Pitt Observation Points