Comparison study of radio telescope measurements with GPS based measurements

Shantanu

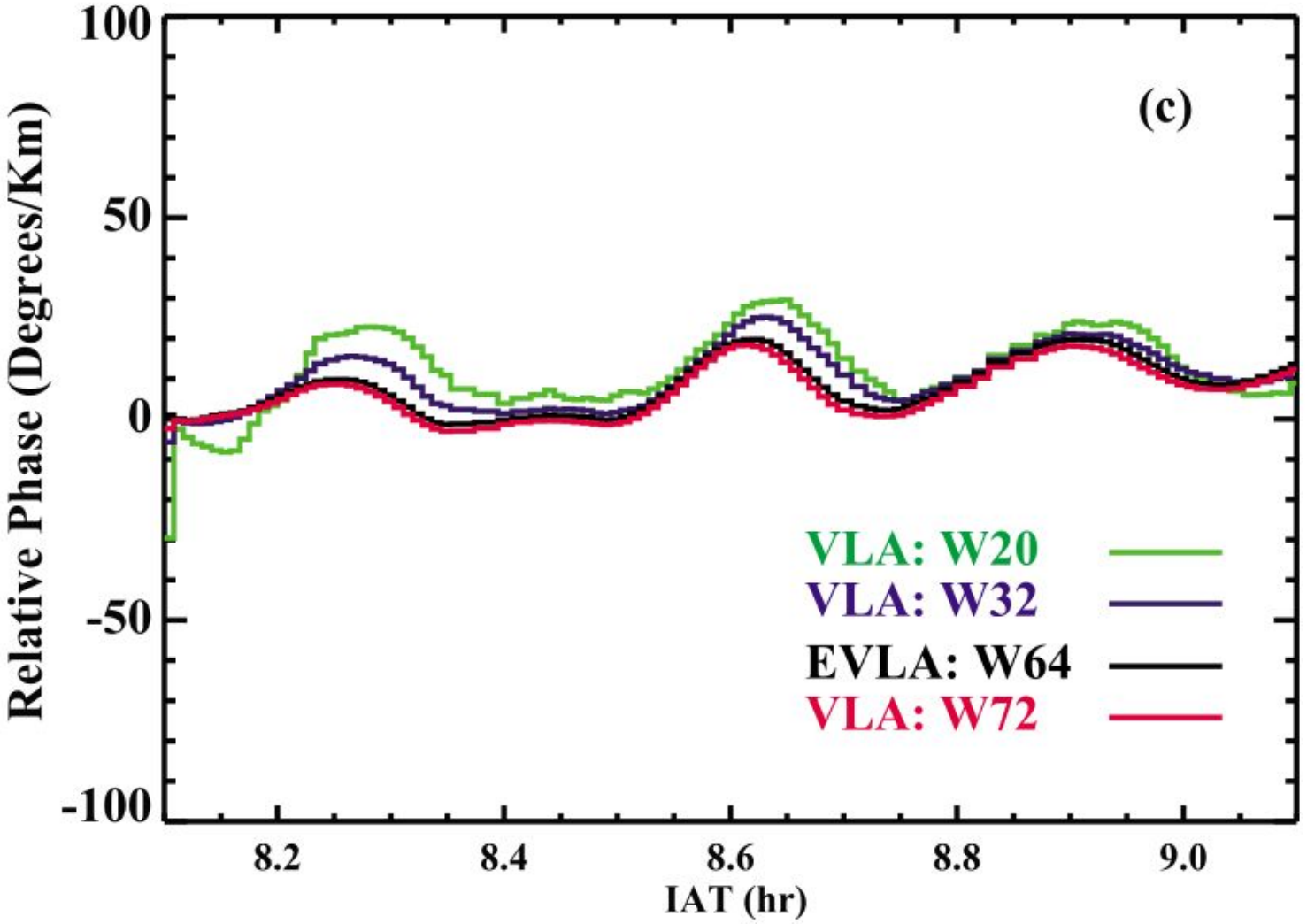
To reduce the effects of phase contamination by weaker secondary radio sources in the radio telescope's fields-of-view, the phases were averaged along all of the interferometer baselines, using the method suggested by Jacobson and Erickson [1992a]

The Jacobson and Erickson method takes advantage of phase closure between groups of antennas to average out the secondary source contributions.

The phases are averaged using the formula

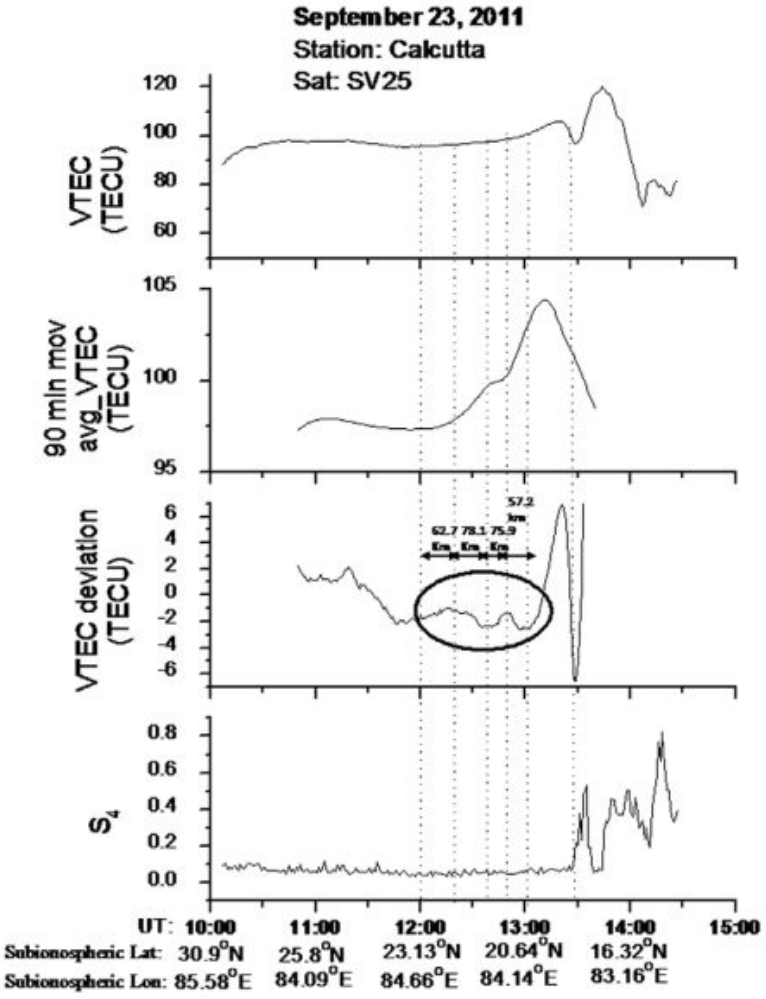
$$\langle \Phi \rangle_{mn} \equiv \frac{1}{N-1} \left\{ \Phi_{mn} + \sum_{\substack{j=1,N \\ j \neq m,n}}^{N} \left[\Phi_{jn} - \Phi_{jm} \right] \right\}$$

DYMOND ET AL 2011


(c)
Relative Phase (Degrees/Km)
100
50
0
-50
-100
8.2
8.4
8.6
8.8
9.0
IAT (hr)
VLA: W20
VLA: W32
EVLA: W64
VLA: W72

Krati

- TEC measurement from GPS
- 90 min averaged in TEC measurements
- TEC deviations
- FFT



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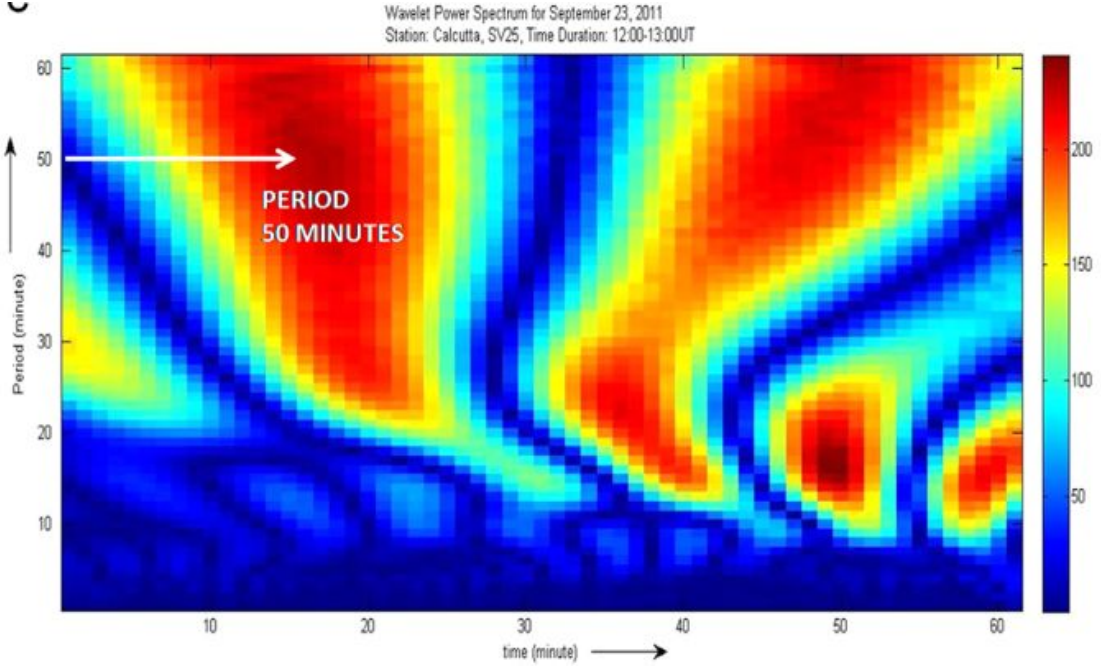

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