



CANDAC

Canadian Network for the Detection of Atmospheric Change

<http://www.candac.ca>

Instrument:

E-Region Wind Interferometer-2 (ERWIN-2)

Contact for Information:

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In Operation Since:

February, 2008

Data Products:

Horizontal winds (N/S, E/W in m/s) at nominal altitudes of 87, 92 and 96 km with a precision of less than 5 m/s. Airglow irradiance (column integrated) for Hydroxyl, O(¹S) and O₂ airglow emissions

Sampling:

Measurements are taken on a cycle of ~2 minutes. During this time interval winds at all three altitudes in all four directions are observed.

Co-ordinates of Instruments:

PEARL-Ridge (80.05N, 86.42W, 608m elev.)

Photo Credit:

Stephen Brown, 2007

Non-technical Summary of Instrument and Measurements:

ERWIN-2 is an interferometer designed to use light (termed airglow) emitted as a result of photochemical processes in the mesopause region (~90 km) to determine winds and irradiance at these altitudes. Winds are determined by spectrally isolating single emission lines and measuring their Doppler shifts along the line-of-sight. The light is gathered at these heights in the four cardinal directions from a 20 km radius region at an elevation of 38 degrees. The wind and irradiance measurements allow information on the large scale circulation and waves of all scales to be diagnosed.