

211011 Measuring the height of the apparent local horizon



Picture 1 : One aluminum board: length 3,825 mm. To keep it rigid and to prevent it from falling flat with the wind maintain it “vertically” on its edge through the vertical rods of the backs of 2 garden chairs. Then horizontally level it with 2 “bubble levels” through inserting wooden wedges beneath it. Distance between both supports: 3,820 mm.

Picture 2 : The initial wooden wedges support on the east chair keeping the aluminum board edges exactly horizontal.

Picture 3 : The extra wooden wedges (52 mm thickness) on this same chair to keep the board upper edge aiming at the exact local horizon spot where the Aircraft Contrail had disappeared. In spite of the wind, I had to wait for the aluminum board to stay out of direct Sun light to eradicate the warm air “mirage” effects onto its edge surface which otherwise would disrupt the measurement accuracy.

Board tilt angle: $\sin \alpha = 52 \text{ mm} / 3,820 \text{ mm}$. Hence $\alpha = 0.78^\circ$ off the horizontal.

Picture 4 : A picture of the Sun Upper Limb just peeking through the exact spot where the contrail disappeared 2 days earlier in the morning of Oct 8th of 2021 by 06:00 UT.

One low alt Sun Upper Limb LOP ☺ :

On Oct 10th 2021 observe as follows :

From N46°30.222' / W000°47.723', assume standard conditions at sea level, at 06:21:10 UT, ☀ UL = 0°46.8'.

Get : **Intercept = +7' (T) , Z = 100.2°**