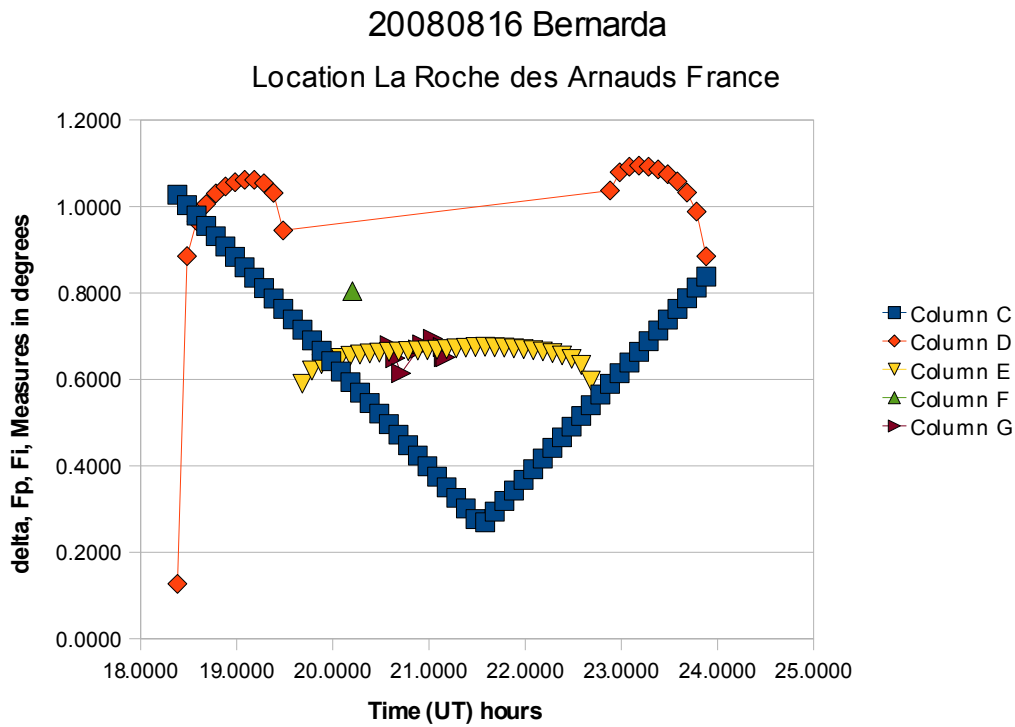


# Computed and measured penumbra and umbra for 20080816 for each observer



## LEGEND ONE

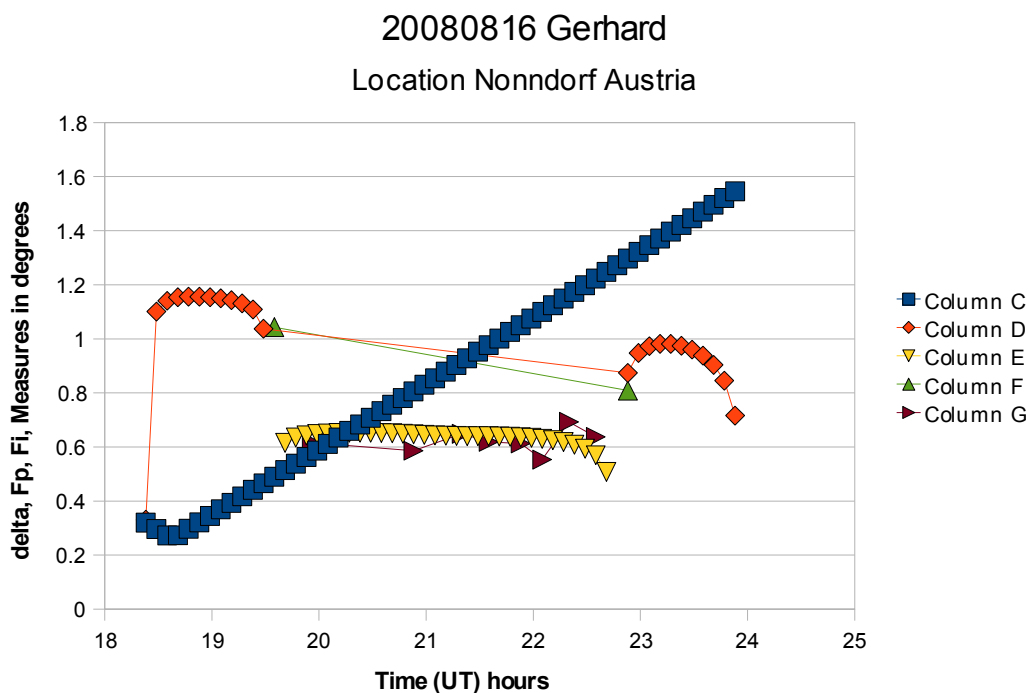
Column **C** is the slant angle  $\delta$

Column **D** is the computed topocentric penumbra ( $F_p$ ) in degrees

Column **E** is the computed topocentric umbra ( $F_i$ ) in degrees

Column **F** is the measured penumbra from Bernard Durand's image ( $F_p$ ) in degrees.

Column **G** is the measured umbra from Bernard Durand's images ( $F_i$ ) in degrees.



## LEGEND TWO

Column C is the slant angle *delta*

Column D is the computed topocentric penumbra (*Fp*) in degrees

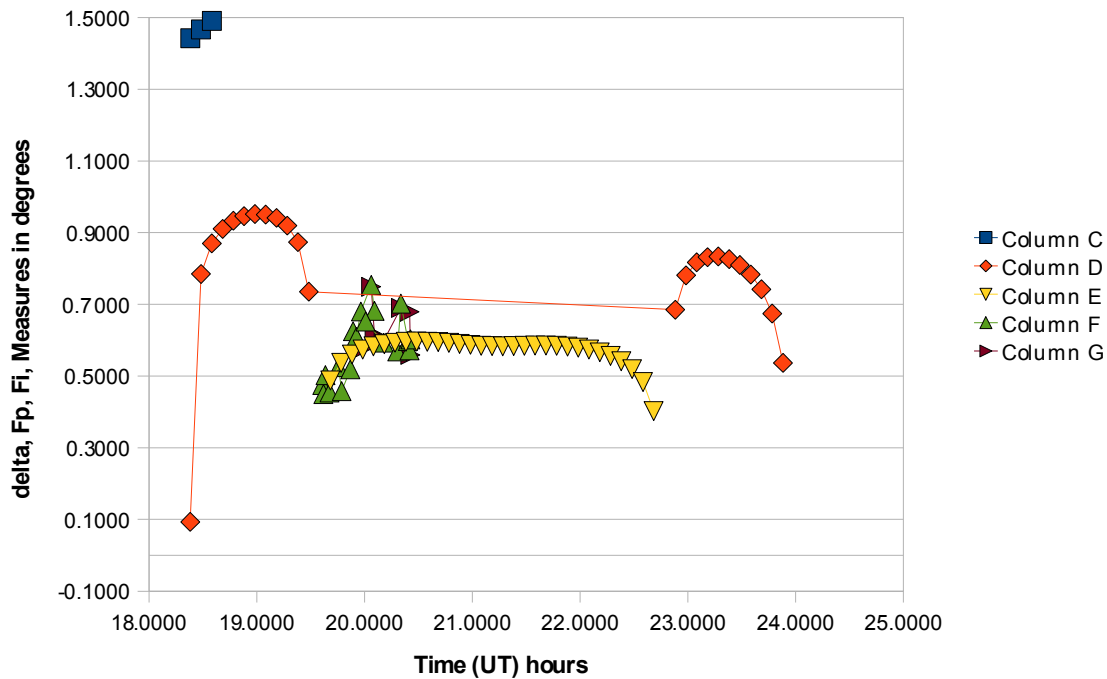
Column E is the computed topocentric umbra (*Fi*) in degrees

Column F is the measured penumbra from Gerhard Dangl's images (*Fp*) in degrees

Column G is the measured umbra from Gerhard Dangl's images (*Fi*) in degrees.

20080816 Soulsbyi

Location Isabella Plains Australia



## LEGEND THREE

Column C is the slant angle *delta* (part only shown)

Column D is the computed topocentric penumbra (*Fp*) in degrees

Column E is the computed topocentric umbra (*Fi*) in degrees

Column F is the measured inner umbra from Byron Soulsby's images (*Fi*) in degrees

Column G is the measured outer umbra from Byron Soulsby's images (*Fi*) in degrees.

## COMMENTS

The topocentric penumbra and umbra semi-diameter have been computed by program *ViaX8.exe* for the times when either edge traverses the Moon. The observers' images have been calibrated to the Moon's semi-diameter and the penumbra and umbra measured with *Digimizer*.

The charts are based on the actual location of **each** observer, and hence the computed values vary slightly.

## CONCLUSIONS

There is **good agreement** in the measured umbra (*Fi*) values for each of the three observers.

The penumbra measure (Legend One, Column F) differs from the computed value of (*Fp*).

The penumbra measures (Legend Two, Column F) **agree well** with the computed values of (*Fp*).