

Reviewer comments to gi-2017-11-abstract-version 2

The considered submission presents the design, development, and operational procedure of a split photocell attachment for the WIDIF theodolite. The system automates the timing measurements required when making sun observations in order to determine geodetic north. An azimuth accuracy to a few seconds' of arc is demonstrated.

The reviewer's recommendation is that the submission is published, on the proviso that the authors consider the following comments:

The authors are recommended to use the term 'position' or 'location' instead of 'localisation' (Page 1, Line 7; Page1, Line 24) and 'determination place' (Page 1, Line 29).

Page 1, Line 27: 'An accuracy of about 1 arcsec in the azimuth' – clarify if this accuracy refers to the sun azimuth being measured, or the final geodetic north azimuth calculated.

Page 2, Line 1: New bullet point for 'sunshots are performed... ..low elevation.' ?

Page 2, Line 5: 'few minutes of time per sunshot'? Clarify if this is the surveying time only, does this include carrying out the calculations?

Page 2, Line 16: (Rasson et al. 2016) should refer to 2016a or 2016b as per References section.

Page 3, Line 1: A title like 'Sunshot Readings from Add-on' would more specifically refer to the output results from the device.

Page 4, Line 3: '...with the Sun is low over the horizon'

Page 8, Figure 6 (General comment): The results appear very consistent. The author could consider including figures to show how the accuracy/repeatability of results from the add-on compares to manual sunshots, and another geodetic north azimuth method value as a reference.