



## ***Interactive comment on “Few years’ experience with Automatic DIFlux systems: theory, validation and results” by Antoine Poncelet et al.***

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Received and published: 7 June 2017

First of all thanks for this detailed review with lots of interesting remarks. I only include here some comments on things I didn't include in the new paper and the reasons why.

Chapter 2 Eq. (11) and (12) You are right, I have apply simplification of small angle a bit early. I have corrected it.

Chapter 3.1 Good remark about the fluxgate, we always begin with a test on the linearity of the fluxgate. The probe is set in Noth-Up position. Then, we move the horizontal axis and read the fluxgate response. Like that, we can test scale factor and linearity of the fluxgate. You are true, bubble level are sensitive to temperature, we didn't make experiment on this but we normally install our instrument in absolute house where tem-

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perature is nearly still constant. And as we perform turnaround for the measurements, the offset will be compensated and the scale factor . But we will look in to this in a near future in more details. Chapter 3.2 Here is the figure you can find in the norm 17-123

Chapter 3.3 we have no long-term fixed laser but we have an Autodif which perform measurement from a long time with a very good repeatability. When it is foggy the azimuth can not be measured but it is the same for human measurements

Chapter 4.3 the red line is the adopted baseline on the reference pillar

Chapter 4.4 Figure 8 the drift is due to 'play' in the tripod. There is no optimal distance because we can adapt the focus of the laser beam. The maximal distance we use is 150m and the minimal is 50m but in this case we have to be very careful with the stability of the pilar.

Chapter 5 I say that it is particularly interesting to have an AutoDIF in unmanned observatory. But it is always interesting to have a manual measurement when you make maintenance of the instrument.

Please also note the supplement to this comment:

<http://www.geosci-instrum-method-data-syst-discuss.net/gi-2017-20/gi-2017-20-AC1-supplement.pdf>

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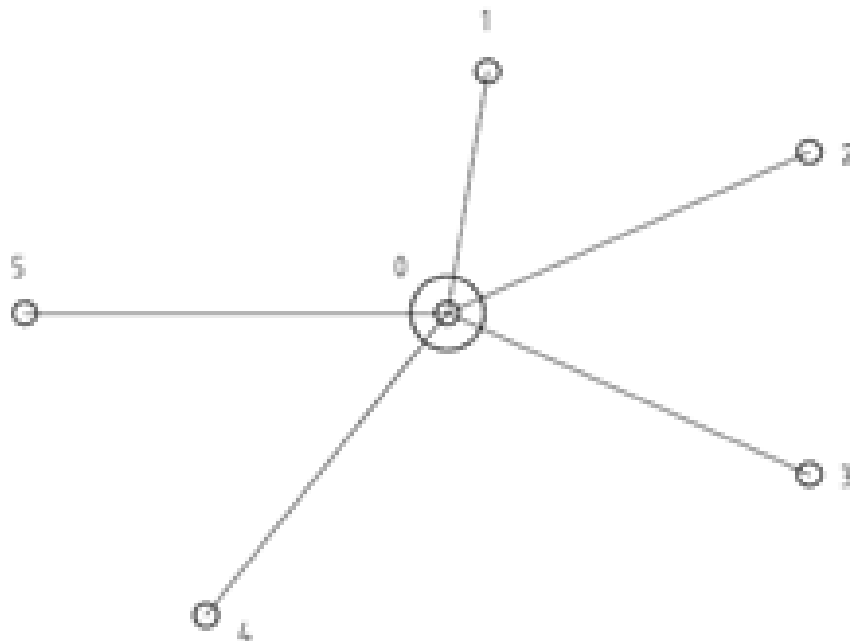
Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss.,  
<https://doi.org/10.5194/gi-2017-20>, 2017.

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**Fig. 1.** iso17123 figure for H circle

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