

Review of “**Automatic True North detection during absolute magnetic declination measurement**” by Gonsette et.al.

In this manuscript a new system using an optical gyroscope for north detection is presented. North detection is an essential part of called “Absolute Measurements” at geomagnetic observatories. Previous work to do these “Absolutes” in an automated way are considered and the relevance of the presented new system in this framework is pointed out. The new system is of use, if a stable azimuth marks as reference to the geographic coordinate system is not available.

As I already stated in my short review with respect to the initial submission **I think the manuscript is clearly suitable for publication.**

But nevertheless I have two minor remarks.

1.) **Title:** Would it not be good to mention already in the title, that a fiber optic gyroscope (FOG) is used? The current title could suggest at a first glance, that the true north is to be determined **by** absolute magnet measurement. Mentioning the method FOG could perhaps attract more interested persons.

2.) **Page 3, line 5.** Do you really need to bother the central limit theorem? The central limit theorem (CLT) establishes that, when independent random variables are added, their sum tends toward a normal distribution even if the original variables themselves are not normally distributed. Perhaps: “The previous equation suggests increasing the sampling time, in order to increase the realizations of ϕ measurements for a statistically firmer result.”