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Interactive comment on "Evaluation of global seismicity along Northern and Southern hemispheres" *by* Olaide Sakiru Hammed et al.

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In this manuscript the authors try to investigate the correlation between the b-value of the Gutenberg-Richter law and the Latitude of the earthquakes. In my opinion they made 3 very important mistakes: 1) b-value must be estimated using the maximum likelihood approach; using the least square approach can lead to a strong bias in the estimation. 2) the magnitude of completeness seems to be underestimated in the first years (see figure 16: very low number of events in the first years). 3) you must test the statistical significance of the differences in the estimated b-values; simply showing the differences without any statistical test do not prove your hypothesis.

Taking into acount this 3 very important mistakes, this manuscript cannot be accepted

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Discussion paper

for publication.

Other small corrections are of secondary importance and were not listed in this review.

Suggestions to improve the manuscript for a possible re-submission: 1) consider the Global CMT catalog; 2) use the MLE for the b-value (see papers by Ian Kagan and Stefan Wiemer); 3) test the results (see papers by Tokuji Utsu); 4) ZMAP software can help you research (http://www.seismo.ethz.ch/en/research-and-teaching/products-software/software/ZMAP/); 5) take a look to the Community Online Resource for Statistical Seismicity Analysis (http://www.corssa.org/en/home/);

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