Reply to the review of the Anonymous Referee #2:

The Authors are grateful to the editor and would like to thank the Referee #2 very much for his important comments that helped us to improve the original manuscript. We have responded to all comments. Details of our responses to each comment are shown below: -

NO.	Referee's Comments	Authors Responses
1	While the problem of DCB estimation is important enough it is difficult to find what new was done in the article. Submitted article by Elghazouly et al. does not use the background.	One of the objectives is to write source code under MATLAB able to estimate DCBs of satellite and receiver using spherical harmonic function accurately and compatible with the other agencies and Other programs such as (Bernese, GAMIT) which can estimate such products. Another objective is to investigate the effect of using elevation angle as a weighting function to enhance precision of estimating DCBs of sat. and receiver, effect of increasing number of GPS station (size of network) used to estimate DCBs. To evaluate the code, its results compared with similar two codes and some IAAC data. The results have good agreement to IAAC data than the two codes.
2	Another issue is that in Europe there are at least several hundred stations. Correct analysis (see "second issue" in the article) should contain results (for several stations) for densest network, less dense, … one station.	In the current paper we used a pre-solved network which had been published by Jin et al. 2012. To evaluate our results. So that the code is applicable for any stations or network.
3	There is also a general problem: nobody knows the real DCB. That make me doubting about 3rd conclusion.	According to the paper, "This code was compared with two other codes and evaluated using some IAAC data".
4	Such requirements are for article submitted to Annales geophysicae. It seems that the authors would like to publish "software article" ("The current study proposes a new MATLAB code"), so I would recommend to look for "software journal" (like, for example, The Journal of Open Source Software).	This code is a part of a code for generating TEC maps, so we cannot publish it before completing the whole project.
5	While the article contains some interesting results the poor organization of the article make it difficult to understand and make sure that they are correct.	As mentioned above the paper clearly divided into three parts. Each part contains the numerical and graphical results. The comment can be more specified which part wants to be organized.
6	There are a lot of formulas in the article but actually only 12-16 are used.	All equations are important to show the mean of each part of the used mathematical model (eq. 12), starting from the general GPS observation equation passing by pseudo range observations smoothing and spherical harmonic model.
7	There are different errors. "By substituting eq (11) and eq (13) into eq (10) we get". Actually (8), (9) and (10) into (11). "following equations (14, 15 and 18)" – there is no (18).	It was really a mistake in equations numbering and it was corrected in the new version of manuscript.