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Geoscientific Instrumentation Methods and Data Systems Discussions

Interactive comment on "Monitoring aseismic creep trend in Ismetpasa and Destek segments throughout the NAF with a large scale GPS network" *by* Hasan Hakan Yavaşoğlu et al.

Anonymous Referee #2

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REVIEW GI-2019-24 Monitoring aseismic creep trend in Ismetpasa and Destek segments throughout the NAF with a Âălarge scale GPS network Summary In this study, the authors established GNSS network Ismetpasa and Destek segments on the NAF (North Anatolian Fault). GNSS measurements were used to understand the tectonic mechanism of these segments and three campaign data were collected in 2014, 2015 and 2016. GNSS data has been evaluated by GAMIT / GLOBK software. Tectonic modeling has been carried out after GNSS evaluation. For this, they used TDEFNODE. As a result of modeling using geodetic data, it was tried to reveal the tectonic mechanism of these segments. They calculated surface velocities aseismic creep still continues to some rates, ∼13 mm/year at Ismetpasa and ∼10 mm/year

at Destek. Also, they obtained between ∼4-6 km for the creep depth layers. The manuscript is very interesting. Introduction of field and problem as well used method are well written. This manuscript will make a significant contribution to the study of earth sciences. Therefore, I think that this publication is suitable for the concept of this journal and should be printed after minor revisions are made. Some of my comments and suggested corrections are given in detail below; âĂć The abstract can be extended with the results of block geometry. âĂć There are many fault names mentioned in the paper. The fault name should be provided in Figure 4. âĂć The previous results of the studies conducted to determine creep rate in the Ärsmetpaşa segment between 1970 and 2016 can be given as figure. âĂć Some of content is repeated, For example Page 7 last paragraphÂă (line 143-147) same as 'GPS Data Evaluation' section line 158-160. Suggest revising or deleting. âĂć There are Turkish sentences or word in Figure 7 and in the manuscript. These sentences should be deleted in the paper. âĂć The citation publications and references should be checked, eg; Poyraz vd. 2011 instead of Poyraz et al. 2011. âĂć Some figures are not enough resolution. So, these figures should be rearranged. For example, Figure 5,6 and 11. âĂć The parameter values âĂŃâĂŃused in block modeling (such as locking depth, Euler poles) should be explained in a few sentences in the paper. âĂć The chi-square value can be given in text (between lines 254-263 in the page 16). It will be more meaningful.

Please also note the supplement to this comment:
https://www.geosci-instrum-method-data-syst-discuss.net/gi-2019-24/gi-2019-24-RC2-supplement.pdf

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