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Interactive comment on “The unrest of S. Miguel volcano (El Salvador, CA): installation of the monitoring network and observed volcano-tectonic ground deformation” by A. Bonforte et al.

Anonymous Referee #2

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This paper describes the installation of a mobile multiparametric network to monitor S.Miguel volcano in El Salvador. The network was installed in January 2014 after an threatening eruption in December 2013. Further, the paper analyses the deformation of the volcanic edifice in the period from GPS week 1778-1789 corresponding to the calendar period of 12 weeks starting from 2 February 2014.

As a general evaluation, I would say that this paper is poor and does not deserve publication. The description of the network installation is more technical than scientific and should be summarized in an appendix or in a supplementary material file. As

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regards the deformation analysis, the period analysed is probably too short and no significant deformation has been revealed by the analysis in my view. Since the network is still in place and data acquisition is going on, my suggestion is that the authors can take advantage from a much longer data set to determine deformations and infer geological processes.

To be more specific, I make some further remarks.

What is the meaning of CA in the paper title?

In the text acronyms (see INGV and MARN) are sometimes explained more than once, and some other times (see RSAM) they are not explained at all. An acronym should be given explicitly only the first time it appears. As for acronyms, see also the case of PDS (Pyroclastic Density Currents). Since PDS is used only once in the text, the acronym PDS is superfluous.

Figure 1. Characters are too small. Specify the meaning of the two arrows.

Figure 5 is said to represent tremor amplitude and volcanic activity. What is the variable plotted here? what is the vertical axis unit?

Figure 10. Symbols are too small.

From Figure 13 it appears that in all GPS stations vertical displacements are much larger (one order of magnitude) than horizontal movements. Why did the authors decide to provide interpretations only for the horizontal ones? Please explain.

Analysis of the baselines provides unclear results. The authors like to distinguish low-altitude and summit stations, invoking some tectonic processes to justify contractions of the baseline in the former case (Page 12 Lines 20-23) and local volcanic processes to justify the latter (Page 12 bottom lines). It is not clear to me what kind of tectonic processes can justify contractions on such a small scale. The trend could be 1-2 mm/month, and if it is continuous, as stated by the authors, it could be extrapolated to 1.5-2 cm per year. This is quite remarkable on distances so small (a few kilometers)

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and would call for strong tectonic activity.

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