

Interactive comment on “A retrospective study of the pre-eruptive unrest on El Hierro (Canary Islands): implications of seismicity and deformation in the short-term volcanic hazard assessment” by Stefania Bartolini et al.

Anonymous Referee #2

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This work describes the analysis of unrest indicators such as seismicity, RSAM, surface deformation and gas emissions at El Hierro during the crisis started in July 2011 and that culminated in the submarine eruption in October 2011. The analysis is conducted by using methods previously developed by the same authors (eg: QVAST, ST-HASSET). The analysis was performed a-posteriori. Results are very interesting since highlight the relative importance of the different parameters during the crisis, showing, in particular, the increase of the RSAM and the role of the other seismic parameter in defining the area with maximum probability of vent opening.

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Minor corrections:

Line 165: "GPS station began to rotate to the North". Perhaps the authors mean that the GPS station translated towards North.

Line 215: "Data was grouped" -> "Data were grouped"

Lines 254-256: The authors consider as a new parameter the "slope of the inverse of the RSAM". This is not clear, since it could be interpreted either as the instantaneous derivative respect to time of the parameter ($1/RSAM$) [ie: $d(1/RSAM)/dt$] or the slope of ($1/RSAM$) taken in a larger time-window (eg: the slope of the line best-fitting $1/RSAM$, etc.). Moreover, this new parameter is not reported in the figures.

Line 367: "eruptive phase". Do you mean "unrest phase"?

Line 439: It seems that the eruption began 11 October, in contrast with line 152 (10 October).

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