

## ***Interactive comment on “The Pollino 2012 seismic sequence: clues from continuous radon monitoring” by Antonio Piersanti et al.***

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Interactive comment on “The Pollino 2012 seismic sequence: clues from continuous radon monitoring” by Antonio Piersanti et al. P. Einarsson (Referee)

COMMENT 1: More technical information is needed. I cannot find any information about the sampling technique. There is no mention of what the carrier fluid is, atmospheric air, ground water, geothermal fluid, geothermal gas? What is the depth of sampling, surface, soil, drill hole? This is particularly important in the light of the strong correlation of radon concentration with meteorological factors, (see e.g. page 6, lines 5-6). This correlation is understandable if the sampling takes place at the surface. It may be possible to reduce the disturbing influence of weather by taking samples from deep drill holes (Hauksson and Goddard, 1981, Einarsson et al., 2008). (I note the

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words “soil radon emanation” appear on page 8, line 33, and page 9, line 19-20 and 29).

REPLY 1: Radon monitoring stations MMN and MMNG have been both developed with a highly sensitive and efficient active detector to monitor radon concentration in ambient air. The system employs an alpha particles scintillator made by a Lucas Cell integrating front-end electronics, and measures radon concentration with an adjustable acquisition time (default is 115 minutes); its efficiency is 0.06 [CPM/(Bq/m<sup>3</sup>)] and the minimum detectable concentration is as low as 3.4 Bq/m<sup>3</sup> (see also Table 1 in Supplementary Information). The radon detectors of both stations are located in a small room of an isolated building, not disturbed by anthropogenic influences and without any kind of opening and/or aeration system. We have experimentally verified that, for our purposes, the results obtained by means of this setup are equivalent with respect to a radon probe inserted directly in the soil (see Appendix A of Piersanti et al., 2015). We added in the reviewed manuscript (Supplementary Information section) a more exhaustive description of the sampling technique, as suggested.

COMMENT 3: Typo-graphical suggestions or specific comments

REPLY 3: We corrected as suggested.

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