

Interactive comment on “Radiological data on building stones from a Spanish region: Castilla y León” by A. Pereira et al.

Anonymous Referee #2

Received and published: 18 October 2013

In my opinion this is a good manuscript that addresses relevant scientific information within the scope of NHESS and show unpublished data obtained from valid and clear scientific methods. The title and abstract clearly reflect the content of the manuscript. The conclusions are substantial and supported by the results. The mathematical formulae and symbols are correctly defined and used. They refer previous works. Although I agree with most of the discussion or the work I have three comments that I think that will improve the manuscript:

1. In page 4089, line 20 the authors refer a paper on capillary absorption of damp by sedimentary stones similar to those studied in the manuscript. From my experience there are abundant references on the porosity properties of some of the studied rocks in the area, carried out by researchers of the University of Salamanca (Molina Ballesteros, C1470

lñigo lñigo, García Talegón, ...). I think that some of this data even could increase the knowledge on the correlation between mineralogy, weathering and radioactivity.

2. In page 4096 line 21 the authors write “The rocks analysed define an approximately linear trend, indicating that the radionuclides should share a common mineralogy” I do not agree at this point. This linear trend it is not clear and if you calculated correlation coefficients they are <0.8 . This is probably because you are comparing very different rock types and rock with different weathering degrees.

3. In page 4097, line 15-20: the authors comment that weathering induced an increase in the rate emanation of Rn gas. I think this is evident. It is well-known that weathering increases porosity. In granites, weathering increases the proportion of connecting pores, and this will increase the Rn-222 exhalation rate.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 4087, 2013.