

***Interactive comment on “A novel approach to compare simultaneous size-segregated particulate matter (PM) concentration ratios by means of a dedicated triangular diagram using the Agri Valley PM measurements as an example” by A. Speranza et al.***

**Anonymous Referee #1**

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The manuscript “A novel approach to compare simultaneous size-segregated particulate matter (PM) concentration ratios by means of a dedicated triangular diagram using the Agri Valley PM measurements as an example” by Speranza et al. is mainly focused on a discussion about a method to compare PM concentrations measured in Agri Valley site with similar measurements in other sites. The method is based on a well-known idea, but is used in a new fashion, giving interesting results.

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The paper is well written, having an appropriate length and showing clear conclusions. I would recommend acceptance of the paper for publication to NHESS, with the following comments:

In paragraph 3 values of ratios PM2.5/PM10 and PM1/PM10 are reported and compared with the same quantities computed for other sites. I think that the comparison has to be discussed with a deeper analysis of experimental errors and uncertainties.

I suggest to insert a discussion on uncertainty that affect measurements in Agri Valley, and how it is estimated starting from experimental errors, and to rewrite the discussion on comparison with other measurements in literature taking into account also their uncertainties.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 3919, 2014.