

## ***Interactive comment on “Increasing the accuracy and temporal resolution of two-filter radon-222 measurements by correcting for the instrument response” by A. D. Griffiths et al.***

**Anonymous Referee #1**

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From the answer of the authors, I would like to comment the following two points:

1) The parameters that are included in the equations of the model have a high level of uncertainty and therefore, the results should be validated with a large experimental calibration procedure in order to know the influence of each of the parameters in the final concentration. Therefore, it is not clear enough that the proposed mathematical correction will work properly in all environmental conditions. In order to avoid the experimental work (or as I pointed out in the previous review that the detector could be change to a PIPs) the authors could include a section regarding Rn-222 measurement uncertainty, maybe an evaluation of the uncertainty for each parameter and to propagate it in the equations.

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2) Regarding the equations [3-5] in the internal delay chamber for radon progeny, I will try to describe my point. Physically, progeny concentrations in this delay chamber will be different if there is a screen or not (some progeny are collected on the screen). Furthermore, it will be also different for different external flow rates (some progeny go out the system in the exhaust air). Both issues, affects the radon progeny concentration that enters in the internal radon chamber, how are they included in equations [3-5]?

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