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# ***Interactive comment on “<sup>222</sup>Rn calibrated mercury fluxes from terrestrial surface of southern Africa derived from observations at Cape Point, South Africa” by F. Slemr et al.***

**F. Slemr et al.**

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Many thanks for the review #1. The points raised by the reviewer are considered below:

1. One possibility to calculate R is  $R^2 = \text{slope}(y \text{ to } x) * \text{slope}(x \text{ to } y)$ , where  $\text{slope}(y \text{ to } x)$  is the slope of the least square fit of y to x and  $\text{slope}(x \text{ to } y)$  the slope of the least square fit of x to y. This equation implies that R can tend to zero even if  $\text{slope}(y \text{ to } x)$  is far from zero.

2. The text has been revised.

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3. We observe negative and positive fluxes in all seasons and the question was whether that might be because of the varying background GEM concentration. In this respect we think that the correlation of slopes vs intercepts is justified. But we agree that the absence of correlation is not a very convincing argument for the absence of a dependence of mercury flux on background mercury concentration because the range of background concentrations (intercepts) is small and their uncertainty in many cases rather large. In the revised text we replaced the misleading word “ambient” by “background” and do not repeat the finding in conclusions.

4. The point of the contribution of RGM to overall mercury flux was already raised by the reviewer #2 and we comment on it in our response to this review.

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