The authors appreciate the constructive comments from the reviewer, and will incorporate the reviewer's suggestions in the revised manuscript once approved by the editor. One general and one specific comment raised by the reviewer are addressed in details as follows:

General referee comment: The authors conducted an experimental study on 7 soil samples collected from the Idrijica catchments to investigate mercury emission fluxes at various conditions using a well established laboratory flux measurement system (LFMS). The outcome from this study is of great importance to understand mercury emission fluxes from soil in this region. A few drawbacks of the experimental designs do exist. First of all, A Lumex RA-915+ was used in the experiment. It is well known that Lumex can only accurately measure mercury concentrations in ambient air with Hg concentrations up to 10 ng m-3. At low concentration levels, the uncertainty is very large. The soil texture was not quantitatively measured so that it is not easy to explain the correlation between Hg flux and soil moisture. Thirdly, only total Hg concentrations in soil samples were analyzed, but the speciation information was not determined. It will be good to compare the actual speciation data with Hg flux instead of using results from previous study.

Response:
Regarding the use of the Lumex RA-915^{+} instrument: According to the manufacturer of the Lumex RA-915^{+} instrument, in applications such as continuous surveys of mercury distribution in ambient air, the detection limit is around 2 ng m^{-3} with a response time of 1 sec. However, experiments performed with serial instruments showed that under more constant conditions such as those during our experimental design, the real detection limit of the instrument might be as low as 0.3 ng m^{-3}. Similar, in our study detection limits calculated based on the baseline noise ranged between 0.5 and 1.0 ng m^{-3}, as described in section 2.2.1 of the manuscript. Therefore, taking the magnitude of fluxes measured from soils collected at this contaminated site, we believe that the experimental setup used was accurate enough and did not significantly alter the magnitude of fluxes and trends observed.
Regarding the soil texture: In our study, soil texture was determined as additional variable describing general samples characteristics only. As it was not measured quantitatively, it was not used during the discussion to explain the trends in Hg flux observed.
Regarding the generalisation of the previous speciation/fractionation studies of Hg in soils from Idrija region to our data: We agree with the referee that it would be good to compare the actual speciation data with Hg fluxes measured. However, we would like to emphasize that spatial distribution as well as speciation and fractionation of mercury in soils from the Idrija region are very well documented in previous studies. Based on this previous knowledge, sampling locations for our study were selected. Therefore, we believe that the use of previous knowledge in the data interpretation is adequate as the sampling sites were the same.

Specific referee comment: A discussion section needs to be added to address how the current study will contribute to estimate Hg emission from soil in the River Idrijca catchment.

Response: This is a valuable comment and we agree with the reviewer in this regard. Therefore, a discussion that will address how our study will contribute to estimation of Hg emission from the Idrija region will be incorporated in the revised manuscript.