

Interactive comment on “A distributed soil moisture, temperature and infiltrometer dataset for permeable pavements and green spaces” by Axel Schaffitel et al.

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This manuscript presents an interesting dataset on soil moisture, temperature and infiltrometer for permeable pavements and green spaces for the analysis urban hydrology in the city of Freiburg. The article is also very well written, and gives a very good overview of the presented data. The tables and figures are very informative and the data is archived in an appropriate way.

This is a quite unique data set for studying urban water and energy cycles and will be useful for the parameterization and testing of urban hydrological models. I have only a few general comments that should be considered.

General comments

Some of the sensors were installed within an excavated hole which then was refilled successively with bedding material. What kind of material did you use? If it is different from the site material in terms of soil hydraulic properties this could have led to biased measurements.

You applied the CRIM model by also considering the temperature dependency of permittivity. The same procedure was applied to the SMT100 sensor by Bogen et al. (2017) and they found that the derived soil moisture from the permittivity measured by the SMT100 did not show temperature effects. This indicated that the temperature effect was only due to the temperature dependence the permittivity and that the sensor electronics were not affected by temperature. Please discuss reasons for the remaining diurnal soil water content oscillations.

You removed data from frozen soils with the argument that freezing hinders vertical water movement within the profile. However the main reason should be that the dielectric properties of frozen water are different from the liquid water for which reason soil water content measurements with electromagnetic sensor of frozen soils are not reliable.

Finally, some remarks on the transferability of the data to other urban areas would be helpful for potential users of the data.

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Discussion paper

