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Discussions

Interactive comment on "Hyperspectral longwave infrared reflectance spectra of dry anthropogenic plastics and natural materials" *by* Shungudzemwoyo P. Garaba et al.

Anonymous Referee #2

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This manuscript describes an interesting database of reflectance/emissivity spectra of some manmade plastics and natural materials. Because laboratory measurements include a wide spectral range (UV-VNIR-SWIR-TIR), this dataset can be used for identification of plastics with a number of remote sensors. The manuscript is well organized, and description of dataset is clear (and it is also freely available in PANGEA).

I have some minor suggestions to the authors:

Section 2.2: the measurement protocol is a key factor in this research. I think the section could be expanded by providing more info on the instrument (e.g. Signal-to-noise ratio for each port, etc.)

Section 4: Not sure if Figure 10 is really necessary at this point. However, I think it would be very interesting to discuss the limitation of current EO sensors for detection of plastics. The authors identified characteristic peaks of each reflectance spectra, so it would be interesting to discuss if these characteristic peaks can be "captured" by current EO sensors. This is probably more difficult with current TIR sensors, with limitations on the number of spectral bands.

The ECOSTRESS spectral library includes a number of manmade and natural materials. I don't know if it includes materials similar to the samples collected and measured by the authors. In this case, a rough comparison between these measurements could be an option for a brief test of the data presented by the authors.