

Requirements are to enhance the usability of the published data collections and the manuscript following the referees' and editorial recommendations.

Please upload the revised version with i) new answers to the referees as in the current version of answers to the reviewers it becomes not clear if and how all referee points have been addressed, e.g. please list what edits and changes you could made in the published data collection

and with ii) the new manuscript version with track changes included.

### **In general**

The ESSD manuscript describes a spectral library collection without in this moment visualising the data in form of spectral library plots and without a user-friendly overview on the content per collection.

i) provide more detailed tables on the content of the spectral library collections in the main text, e.g. provide the name of the minerals per collection in overview tables in the ESSD manuscript

ii) provide plots (e.g. stacked or group associated) of the spectral library collections in the main text. You can also add more specific details in the appendix

### **data publication**

in the data collection enhance the ascii files. Now the ascii spectral library files are directly exported from the ENVI spectral libraries.

Enhancement of ascii files: you have the possibility to add more codes and explanations: please add – in addition to the ENVI spectral library code name of the reflectance spectra – at least another code that is also clearly the same code in a linked chemical measurement, please add also a column for the general name of the mineral / element.

Specifically for the copper bearing minerals you need a clearly identifying code system so that the geochemistry and reflectance spectra can be linked.

If you intend to keep the Apliki mine spectral library collection in this ESSD manuscript you need to provide a linkage to the other data collections, e.g. you could do this in the form of mineral interpretation

Please consider the Referees comment: The authors should also explain exactly what they mean by geochemical validation-to show the composition of the samples, or to show a relationship between composition and absorption minima?

and make more clear in the text how you apply the term 'validation

## specific requirements

**Abstract:** please name how many samples are in the specific collections each

**Introduction:** Please change the focus of your introduction: in your manuscript, the introduction leads into the direction of hyperspectral imaging, specifically on future hyperspectral satellite missions such as EnMAP and future imaging spectroscopy applications that could make use of the spectral libraries. While this can be a part of the introduction substantial information is not provided yet.

Please introduce in the introduction the REE- and copper bearing target minerals / rock assemblages that are your published data collection in which ore deposits they occur and for what these elements are used for. Explicitly show which spectral libraries on REE and / or copper bearing target minerals are available, e.g. USGS, NASA-Jet Propulsion Laboratory Library, Canada Geological Survey published dataset (with citations)

The description of the future ENMAP satellite acquisition principle is not relevant for this ESSD publication, please delete:

‘ The image scenes are acquired by a moving line scanner mounted on the satellite, which records the spatial dimension (x- and y-dimension) line by line, as well as the wavelength dimension (z-dimension). Each pixel therefore represents the full spectral range of the sensor. The sensor’s movement along a rotation or a movement axis provides spatially continuous imaging spectroscopy data.’

Better to show that spectral reflectance measurements and characteristics are clearly based on physics by citing some literature on mineral spectroscopy and also the reason of absorption in the VIS (electronic transitions) and the SWIR (molecular vibrations) instead of to descriptive sentences e.g. ‘Variations along the spectral domain of the data are visible as concave indentions, often referred to as “absorption bands”. – They are absorption bands

L36 in this study -> change into this data collection

**Methods:** please combine chapters 3, 4 and 5 to one chapter method with subchapters – may be add more tables

add a chapter ‘**results**’

Here you can provide plots (e.g. stacked or group associated) of the spectral library collections

## **Discussion –**

You provide discussion chapters on accuracies

Here is also the opportunity on a short chapter for an overview what your data collection provides to the user of the data collections, where you can better bring the Apliki spectral library into the context of this manuscript.

Please note: there is nowhere a requirement about spectral analyses on spectral characteristics.

Throughout the text: reflectance spectra (instead of spectra)