M E T A D A T A

Dataset: A LCT Pegmatite Spectral Library of the Aldeia spodumene deposit: contributes to mineral exploration
Version: 1.0
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Summary
Studies focused on methodologies for locating and prospecting Li-Cs-Ta (LCT) pegmatites are increasingly relevant, given their importance for the energy market in a scenario where new sources need to be identified. Considering the inherent costs of field campaigns to identify targets in situ, this study presents alternatives, focusing on a preliminary evaluation of the spectral signature of targets at a specific site to serve as an added value for future exploration studies. Moreover, such spectral and remote sensing-based approaches help to decrease the impacts of early stages of exploration due to their less invasive nature.
Therefore, we present a spectral library built with empirical data available for public use, focusing on Lithium minerals and pegmatites of the Barroso pegmatite field (Portugal), one of the largest hard-rock European Lithium deposits.
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For more information on the project, please visit the project website: https://inovmineral.pt/

Content of the database in brief

Field name	Description
ID	Primary key generated from Access software.
Sample_nr	Identification of the sample, represented by numbers from one to 11, for example: "INOV01", (...), "INOV11".
Spectrum_nr	Spectrum identification. The number indicated after the "_" represents the spectrum measured in each sample, for example, in sample "INOV01" four spectra were obtained, represented by "INOV01_1", (...), and "INOV01_4".
Locality	Place where the sample was obtained.
Sample_description	Geological description of the sample, considering visual aspects.
WGS84_Zone	UTM zone where the sample was extracted.
Latitude	Coordinate WGS84, where the sample was extracted (Latitude).
Longitude	Coordinate WGS84, where the sample was extracted (Longitude).
Preparation	Indication of the sample preparation routine.
Analysis	Equipment that was used in the spectrum collection.
Stored	Localization of the laboratory where the collection was done and where the samples are kept.
Face_color	Surface staining of the sample (visual observation).
Face_type	Type of sample face (visual observation). Ex.: exposed and sawn.
Photo	Photo indicating the area of the sample where the spectrum was collected (.jpg)
Raw_spectra	Raw spectrum collected (.txt and .pdf).
Processed_spectra	Processed spectrum, with removed continuum (.txt and .pdf).
Spectra_absorptions	Main absorption features automatically extracted (.png)
Spectral_mineralogy	Description of the sample considering the spectrally active minerals/compounds identified.