

(Barbieri et al., 2018; Ufrecht, 2008). Chlorite and Dolomite can be found in some areas of the Bavarian Alps.(Jones et al., 2005; Hilberg and Schneider, 2011; ORE, 2021)

4. Conclusion

In conclusion, the spectral resampling technique applied in this study showed promising results in reducing the noise effect and achieving a wider hypothetical full-width-at-half-maximum using fewer bands. The method was able to maintain the spectral shape of the targets before and after the resampling procedure in most cases. However, in some instances, important spectral absorptions were slightly diminished, which can be attributed to the position of the target bands. Overall, the resampling technique proved effective in preserving the spectral features of the selected soils and minerals, indicating its potential use in remote sensing applications.

It is worth mentioning that all the minerals used in this study are found on Earth. Thus, the spectral resampling technique presented here has the potential to provide useful information for geological mapping and mineral exploration studies. Future studies could further improve the resampling technique by testing different interpolation algorithms and analysing the effects of varying bandwidths on the accuracy of the results.

5. References

- Barbieri, A., Leven, C., Toffolo, M.B., Hodgins, G.W.L., Kind, C.-J., Conard, N.J., Miller, C.E., 2018. Bridging prehistoric caves with buried landscapes in the Swabian Jura (southwestern Germany). *Quaternary International*, Inside – Outside: Integrating Cave and Open-Air Archives 485, 23–43.
<https://doi.org/10.1016/j.quaint.2017.08.002>
- Berry, L.G., Mason, B.H., 1959. *Mineralogy, concepts, descriptions, determinations*.
- Hilberg, S., Schneider, J.F., 2011. The Aquifer Characteristics of the Dolomite Formation a New Approach for Providing Drinking Water in the Northern Calcareous Alps Region in Germany and Austria. *Water Resources Management* 25, 2705–2729. <https://doi.org/10.1007/s11269-011-9834-x>



- Jones, R.J., Houšková, B., Bullock, P., Montanarella, L., 2005. Soil resources of Europe. European Soil Bureau, Joint Research Centre Ispra, Italy.
- Klein, C., Dutrow, B., Dana, J.D., Klein, C., 2002. Manual of mineral science. Wiley New York.
- Krooss, B.M., Jurisch, A., Plessen, B., 2006. Investigation of the fate of nitrogen in Palaeozoic shales of the Central European Basin. Journal of Geochemical Exploration 89, 191–194. <https://doi.org/10.1016/j.gexplo.2005.11.075>
- ORE, I., 2021. 2018 Minerals Yearbook. US Geological Survey.
- Singer, A., 2007. The Soils of Israel, 1st ed. 2007.. ed. Springer, Berlin, Heidelberg.
- Ufrecht, W., 2008. Evaluating landscape development and karstification of the Central Schwabische Alb (Southwest Germany) by fossil record of karst fillings. Zeitschrift für Geomorphologie 417–436. <https://doi.org/10.1127/0372-8854/2008/0052-0417>
- Yigini, Y., Panagos, P., Montanarella, L., 2013. Soil resources of mediterranean and Caucasus countries. Office for Official Publications of the Euroean Communities, Luxembourg 237.
- Eli Benny – Team Leader and Maor Nave – Data & Algorithms Engineer, Elop - Elbit company, April 2023.