

Bachelor Thesis

TEM at Martenhofer lake (filler title)

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Abstract

Abstract of the thesis

1 Introduction

Introduction including: Objective: Create a model of the subsurface resistivity at Martenhofer Lacke using the transient electromagnetic method.

Hypothesis: An optimal lambda can be found for the TEM data gathered at Martenhofer Lacke by using the L-Curve method.

Research questions:

- How suitable is the transient electromagnetic method for the investigation of the resistivity of the subsurface at the Martenhofer Lacke?
- Which configuration of the TEM method is most suitable for the investigation of the Martenhofer Lacke?
- Is the L-curve method suitable for the determination of the optimal lambda for the TEM data?
- Which conditions are necessary for the L-curve method to be applicable to the TEM data?

2 Materials and Methods

2.1 State of the Art

[write here]

2.1.1 Common resistivity values

Some common values for resistivities can be found in [galazoulas2015large].

3 Results

4 Conclusion

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

All data and Python routines associated with this study are available open-source to facilitate full reproducibility of the results on github (<https://github.com/pb-tuwien/Geophysics.git>).

References

- [1] W. Dorigo, I. Himmelbauer, D. Aberer, L. Schremmer, I. Petrakovic, L. Zappa, W. Preimesberger, A. Xaver, F. Annor, J. Ardö, et al. “The International Soil Moisture Network: serving Earth system science for over a decade”. In: *Hydrology and earth system sciences* 25.11 (2021), pp. 5749–5804.