

Comparison of image matching algorithms for rock
glacier displacement mapping. A case study for the
Laurichard rock glacier, French alps.

Geo 411 - Landschaftsmanagement und Fernerkundung

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1 Introduction

- Importance of rock glaciers
- Photogrammetry (besides other remote sensing data: InSAR)
- Image matching methods: History: General

2 Study Area

The Laurichard rock glacier is situated in the French Alps, with an approximately 800m long and 100-200m wide tongue flowing from south to north-east. Due to its morphological features it can be considered an active rock glacier (Bodin et al. 2018). Especially, hillshades generated from available digital elevation models (DEMs) exhibit scarps, oriented perpendicular to the flow direction as well as a steep rising frontal lobe.

Since the beginning of the 1980s, the Laurichard rock glacier has been subject to in-situ and remote sensing photogrammetry research. Refer to Bodin et al. (2018) for the most current research work as well as for an overview over the history of site studies.

3 Data and Methods

3.1 Used Data

3.2 IMCORR

3.3 ImageJ BUnwrapJ

4 Results

5 Discussion

6 Conclusion

7 Outlook (or: Conclusion and Outlook?)

References

Bodin, Xavier, Emmanuel Thibert, Olivier Sanchez, Antoine Rabatel, and Stéphane Jaillet. 2018. “Multi-Annual Kinematics of an Active Rock Glacier Quantified from Very High-Resolution DEMs: An Application-Case in the French Alps.” *Remote Sensing* 10 (4): 547. doi:10.3390/rs10040547.