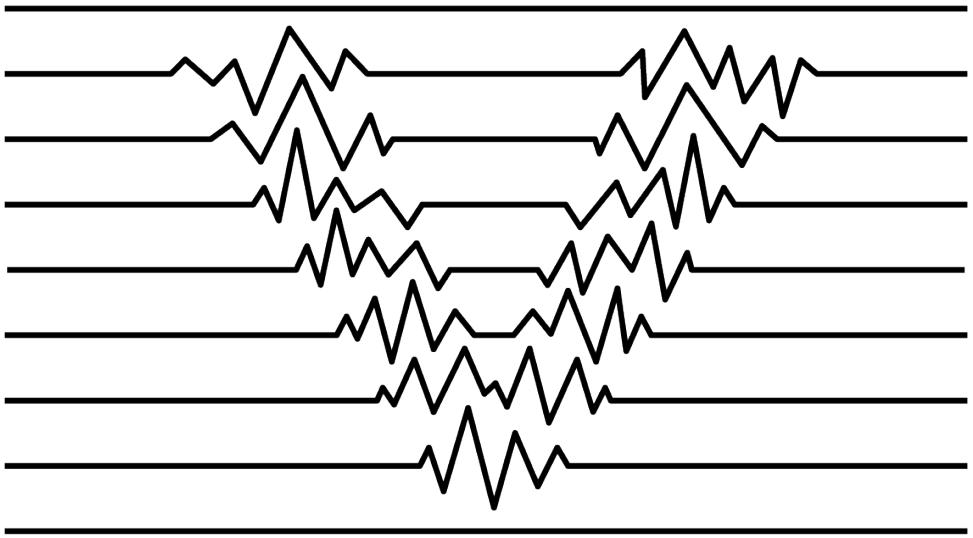


SPIN

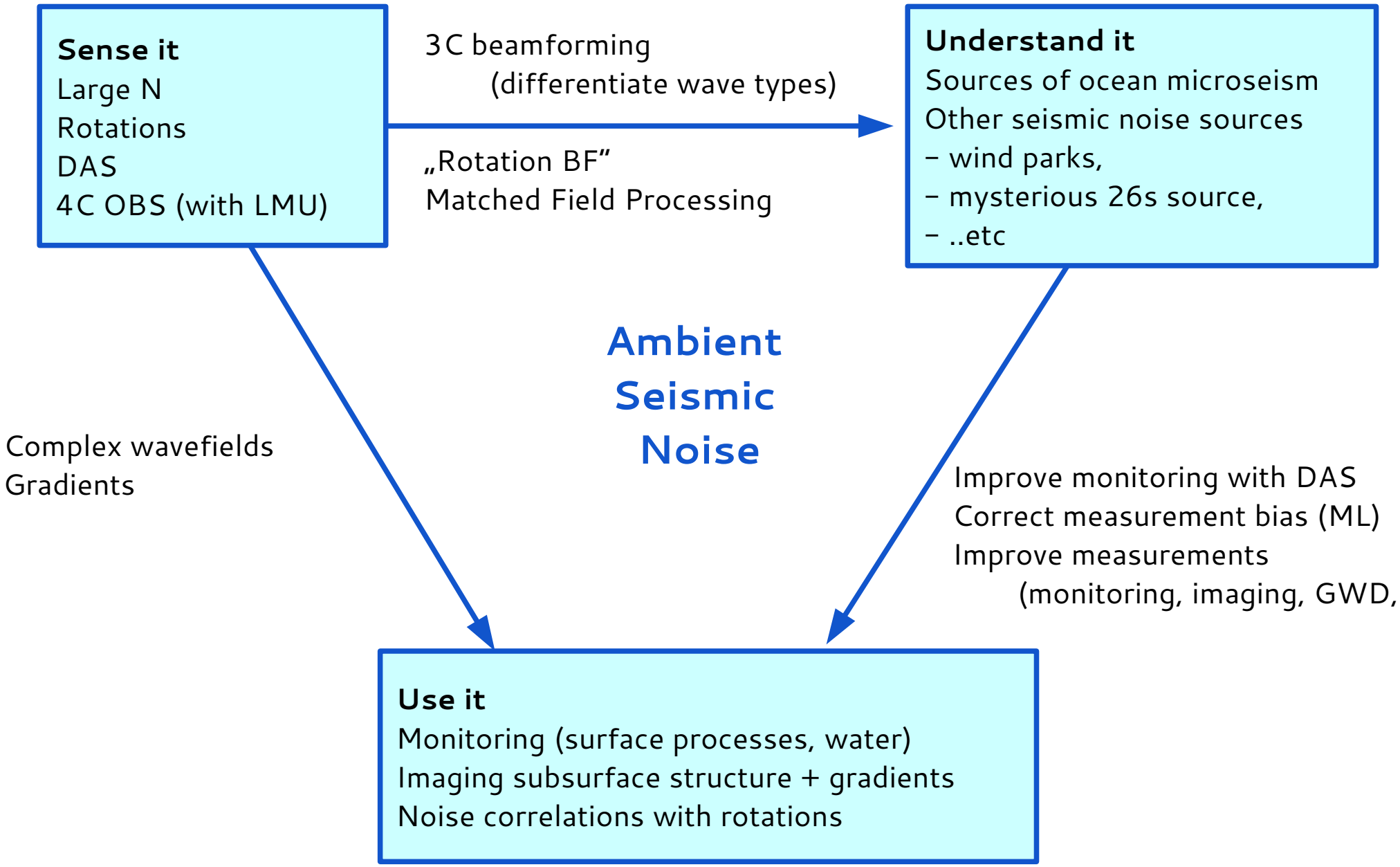
MONITORING A RESTLESS EARTH

http://spin-itn.eu

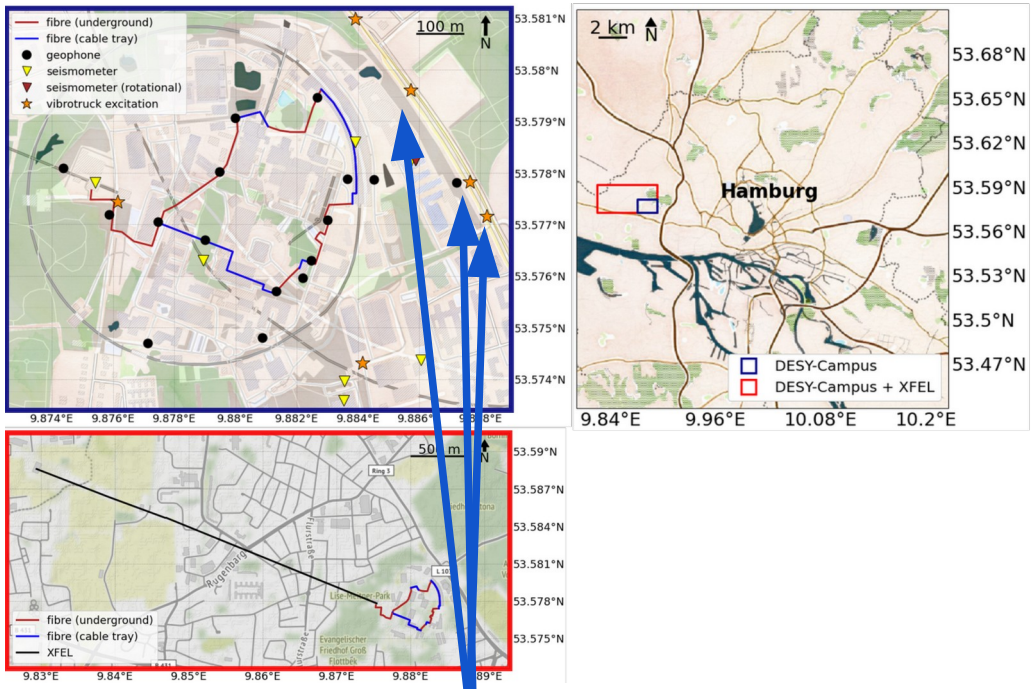
University of Hamburg, Germany

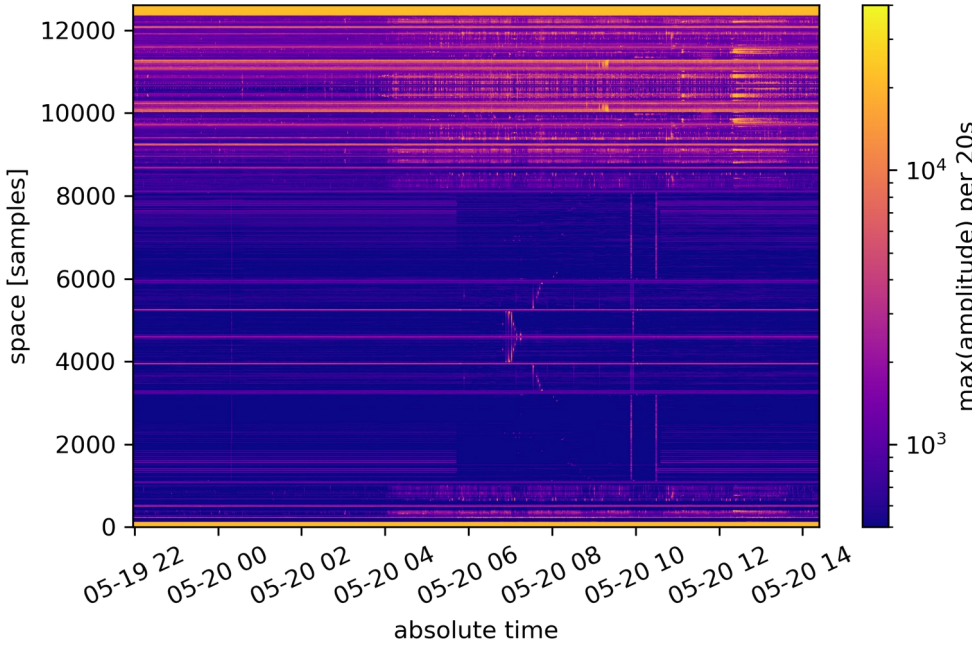
- Celine Hadziioannou
- Sven Schippkus (MFP, dense arrays)
- Anjali Dhabu (Giotto project, SHM with 6C measurements)
- Marco Dominguez Bureos (ESR 4.2)
- Mahsa Safarkhani (ESR 3.4)
- Charlotte Bruland (microseism location, 26 second microseism)
- Jana Klinge (6C seismic noise compensation for gravitational wave detection)
- Master students:
  - Antonia Kiel
  - Regina Maass
  - Fabio Venegas

Research focus: ambient seismic noise



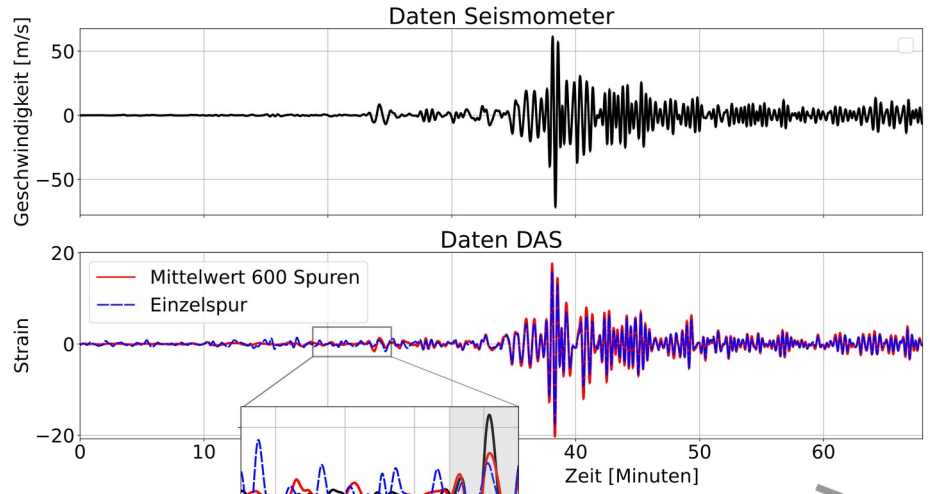
DAS deployment on DESY campus

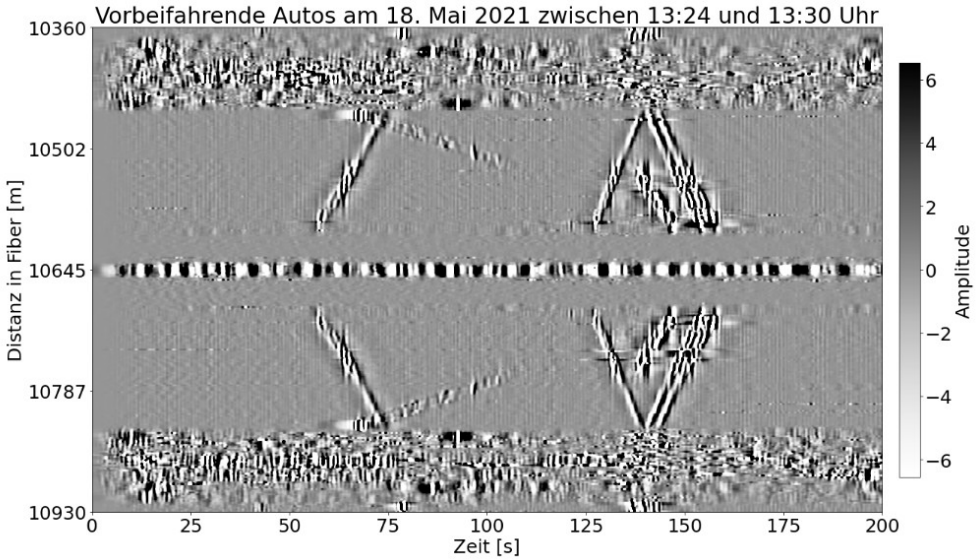


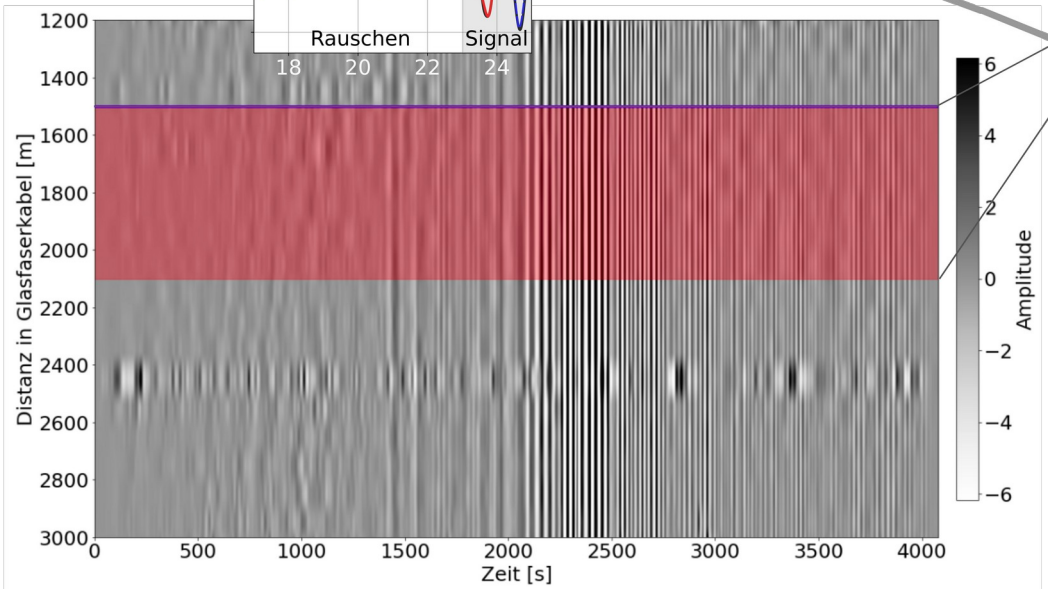


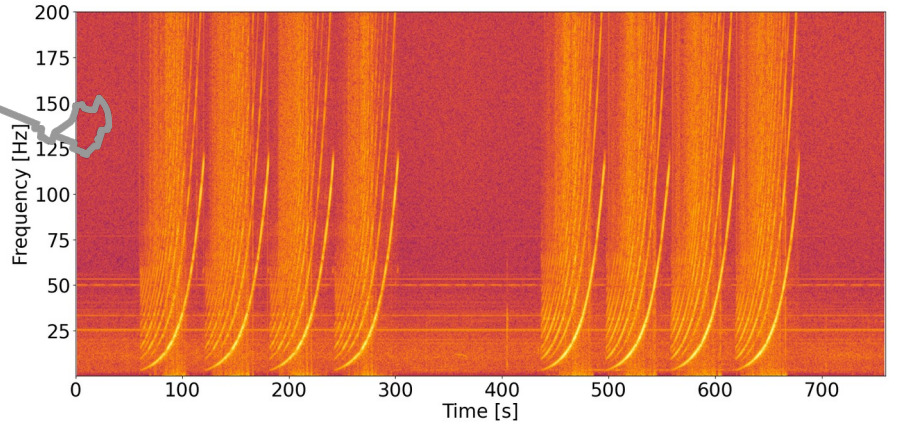
DAS deployment on DESY campus

Eintreffende seismische Wellen nach einem Erdbeben der Magnitude 7.4 mit Epizentrum in Quinghai (China).





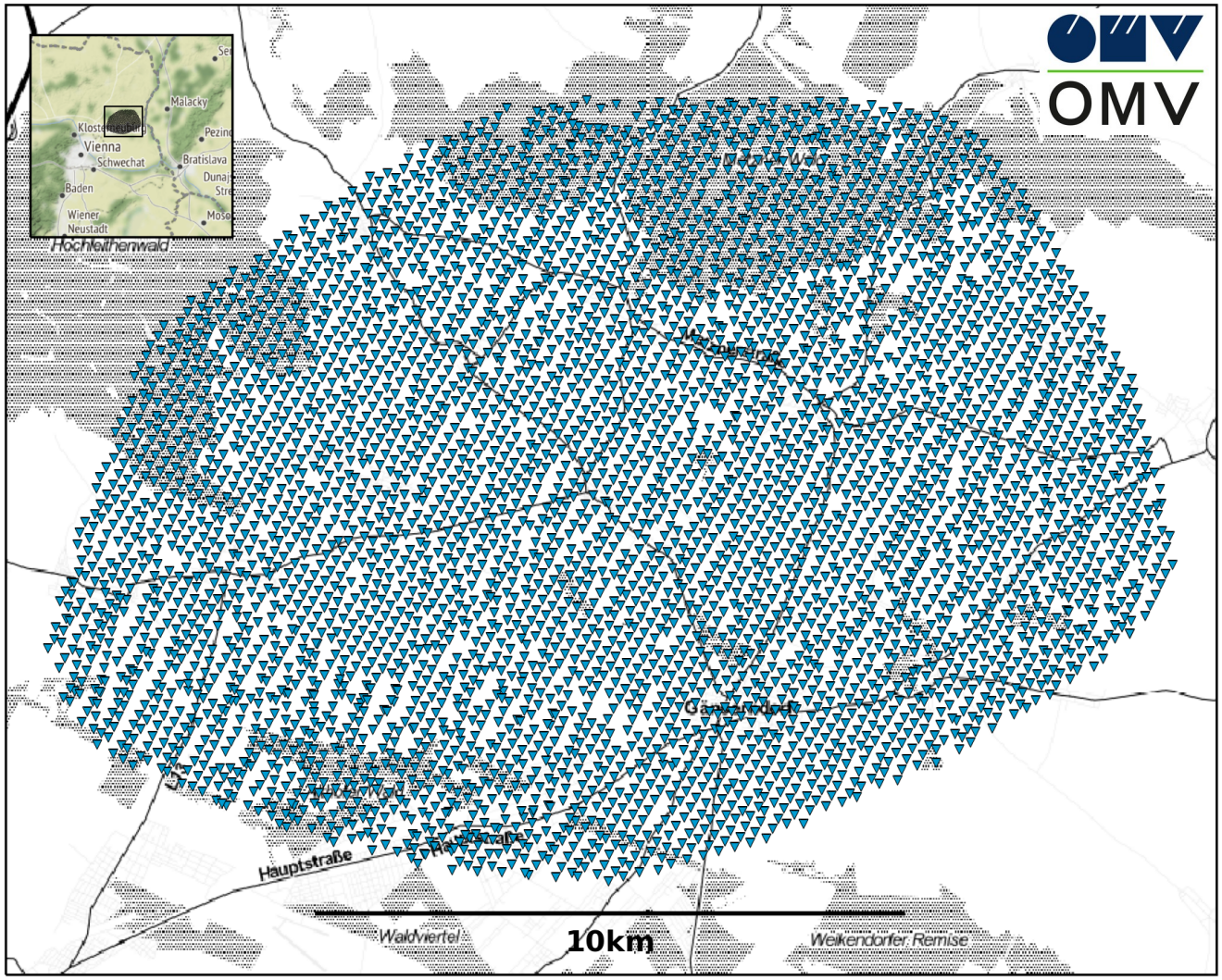




Large-N array in the Vienna basin

Stats

- 4907 stations
- 10Hz geophones
  each 12 stacked
- 4 weeks
- 80 TB of data
- On top of „Matzen" oil & gas field
- Dataset similar to
  Schippkus et al. 2020



Large-N array in the Vienna basin

Research

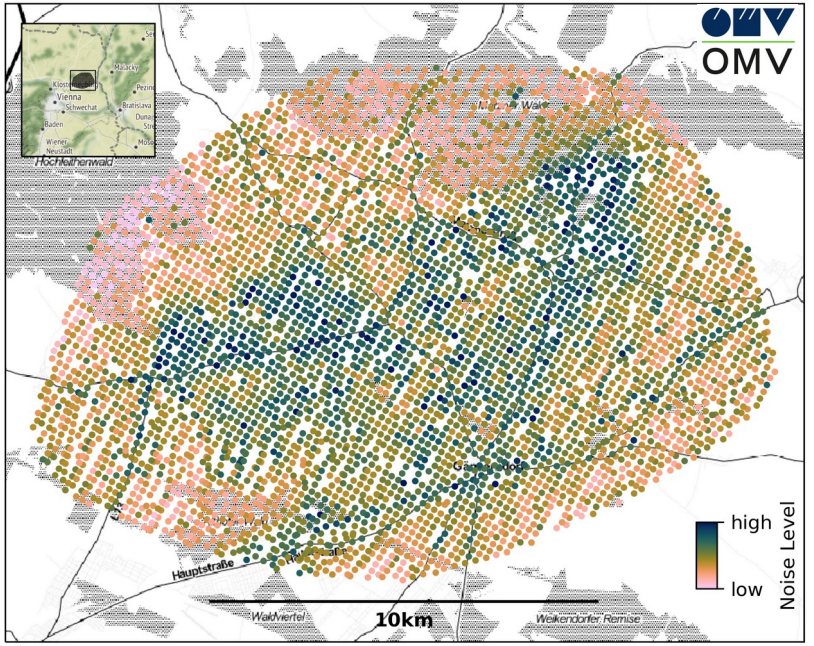
- Noise sources

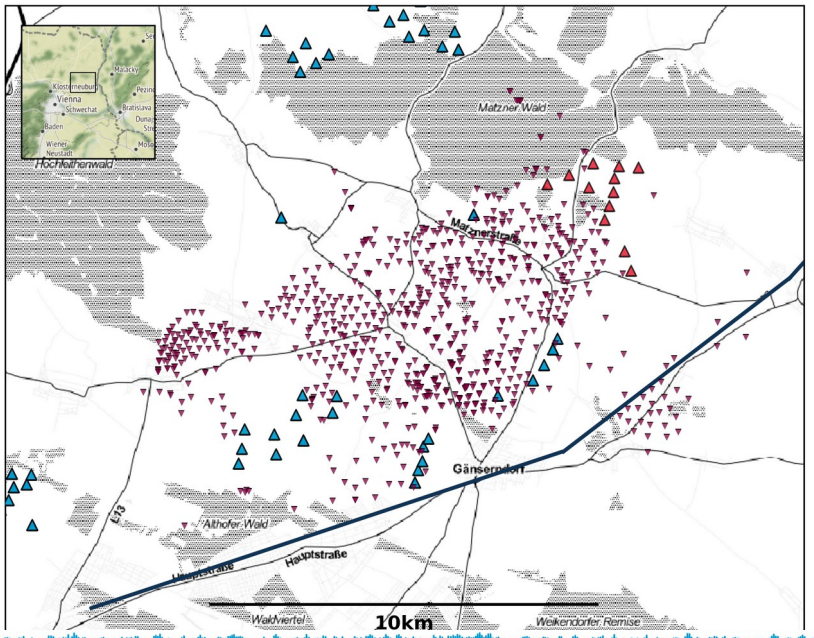
  Impact? Disturbance? Potential?

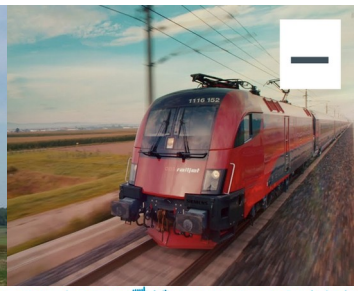
- Imaging

  „Classical" ambient noise imaging

  Wavefield gradients



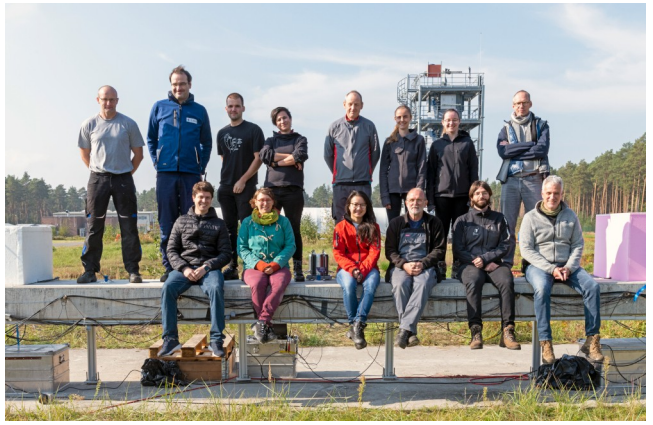


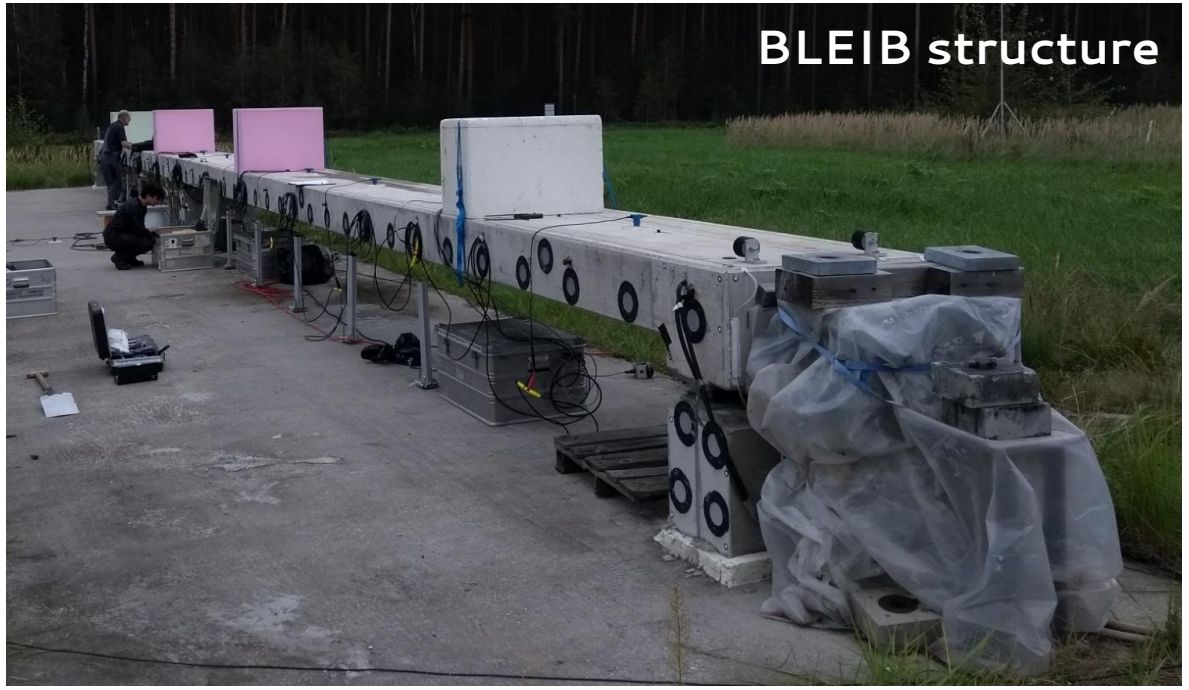


GIOTTO – SHM with CWI and rotations

Motivation:

- gradient measurements to locate changes
- more sensitive 6C measurements on buildings





GIOTTO = UH + LMU + BAM