

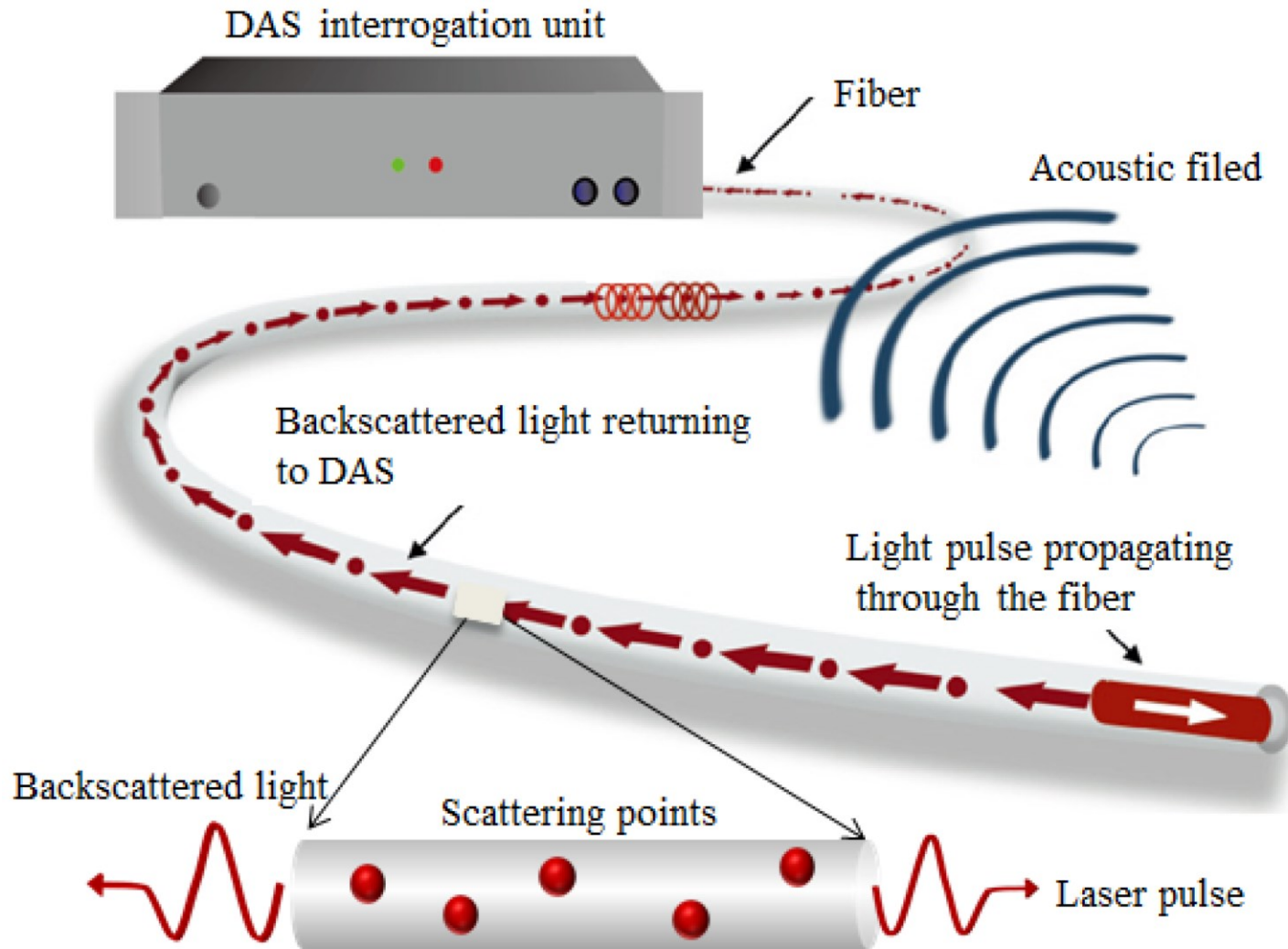
Recent activities using Distributed Acoustic Sensing (DAS) at DESY

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on behalf of the Wave Collaboration
<https://wave-hamburg.eu/>

DESY, Zeuthen, 26.06.2025

What is Distributed Acoustic Sensing (DAS)

Interrogate optical fibres with a single unit...



Allows for monitoring seismic & acoustic waves:

- Detects strain or strain rate
- Super sensitive $\sim 10^{\text{th}}$ of pm/m
- Frequency rate of ~ 1 kHz
- Spatial resolution ~ 1 m
- Uses ordinary single-mode fibres
- 10.000's of detectors simultaneously

➔ to monitor vibrations

➔ to determine sources

➔ to mitigate perturbations

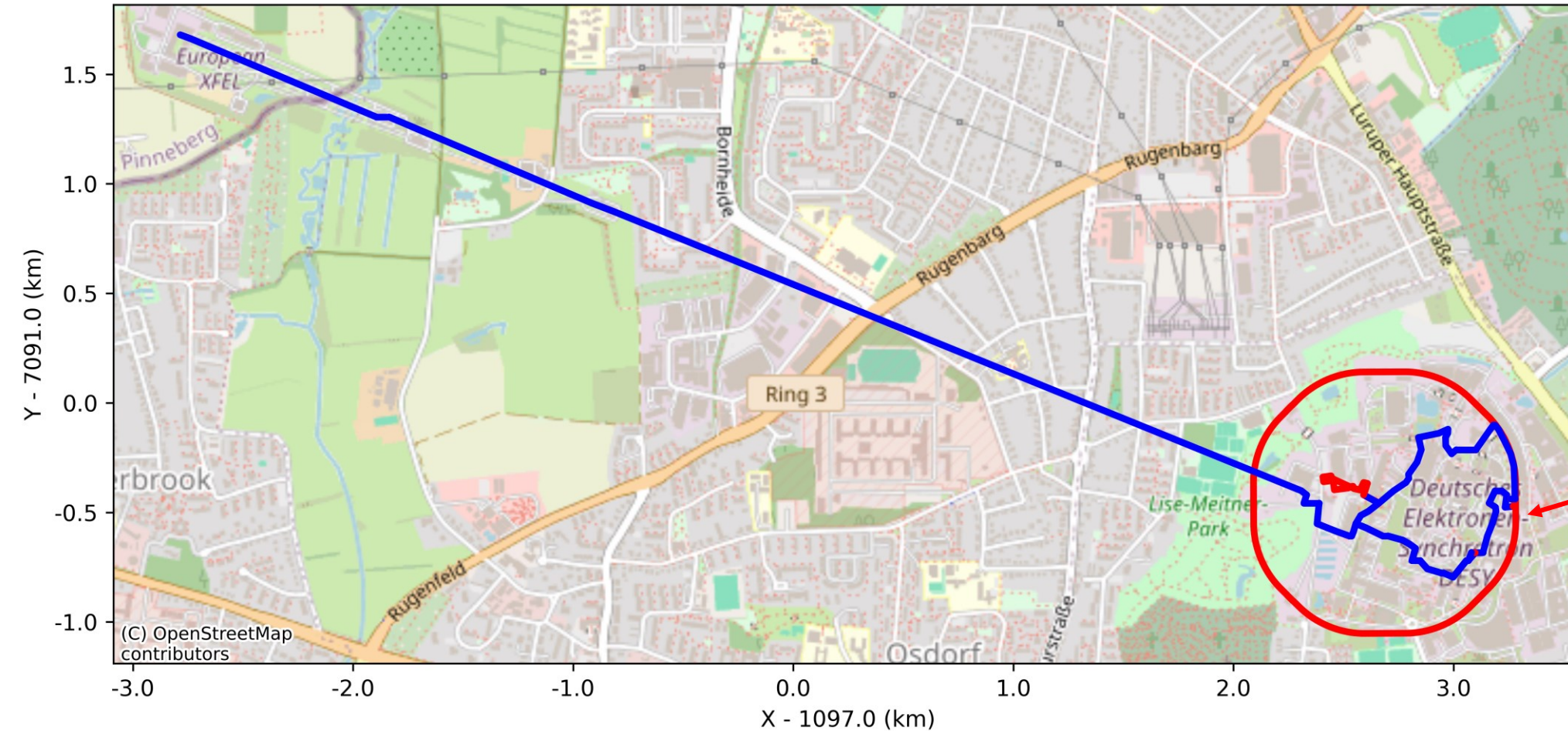


Where was it used

DESY campus... since 2021



DESY DAS fiber path



- Across DESY Campus
- Along EuXFEL
- Always forth and back
- Recently, the PETRA III ring was added

If you like to know what happens when ...

Curiosity cabinet of seismic events ...

➔ Come to my poster

