

THE META-WT EXPERIMENT : CAN A DENSE WIND FARM BEHAVE AS A SEISMIC METASURFACE?

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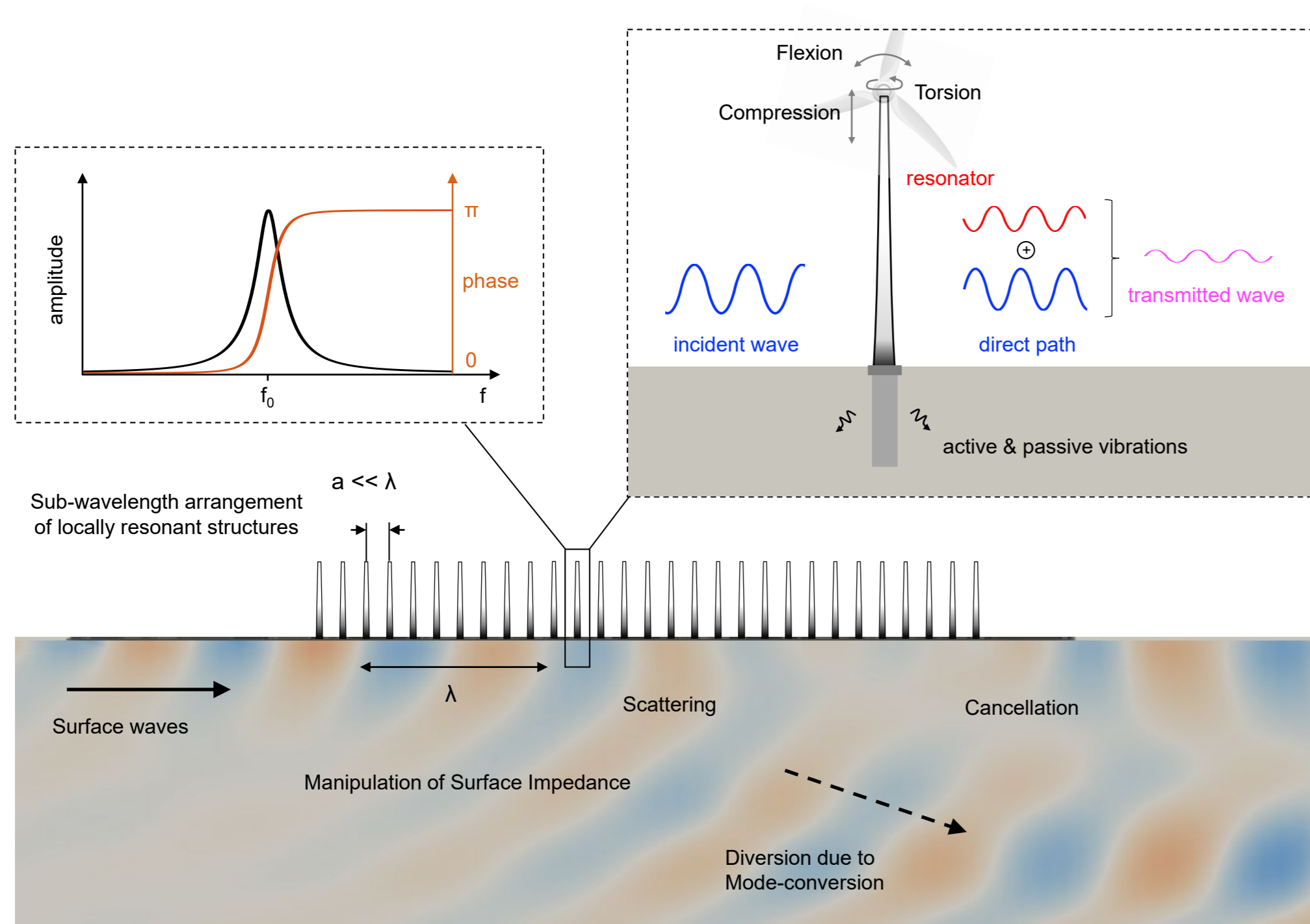
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The META-WT project is built on a 3-week seismic experiment in a wind farm in western Brandenburg, Germany, with a well-studied subsurface structure. The deployment done during February 2023 includes; [1.] A dense array of 400 nodes covering a 2.5 km x 1.6 km area with an equal number of French (3C) and the German (1C) nodes, [2.] a radial line from the center of the wind farm towards the south, with one geophone every kilometer, [3.] a 1 km long DAS fiber optic cable runs inside the wind farm, [4.] broadband sensors and [5.] Rotational 6C sensors. The objective is to capture the full spatio-temporal seismic wave-field signature of the wind farm from continuous recordings of ambient noise. Due to the dense interstation distance, the experiment allows for analyzing both small-scale wave field characteristics at an unprecedented spatial resolution and the longer distance radiation pattern of the wind farm.

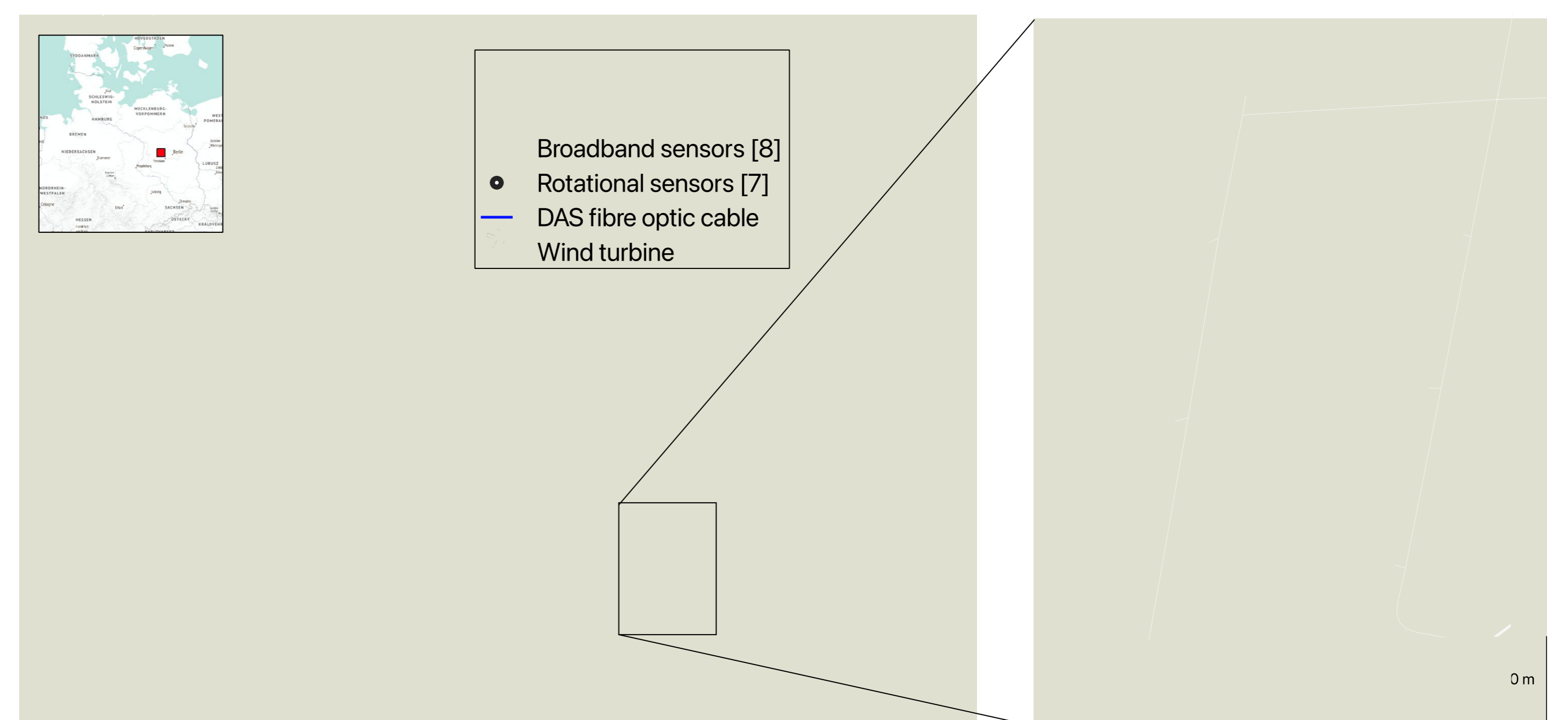
MOTIVATION

Dense Wind Farm - A Potential Seismic Metamaterial



SEISMIC ARRAY

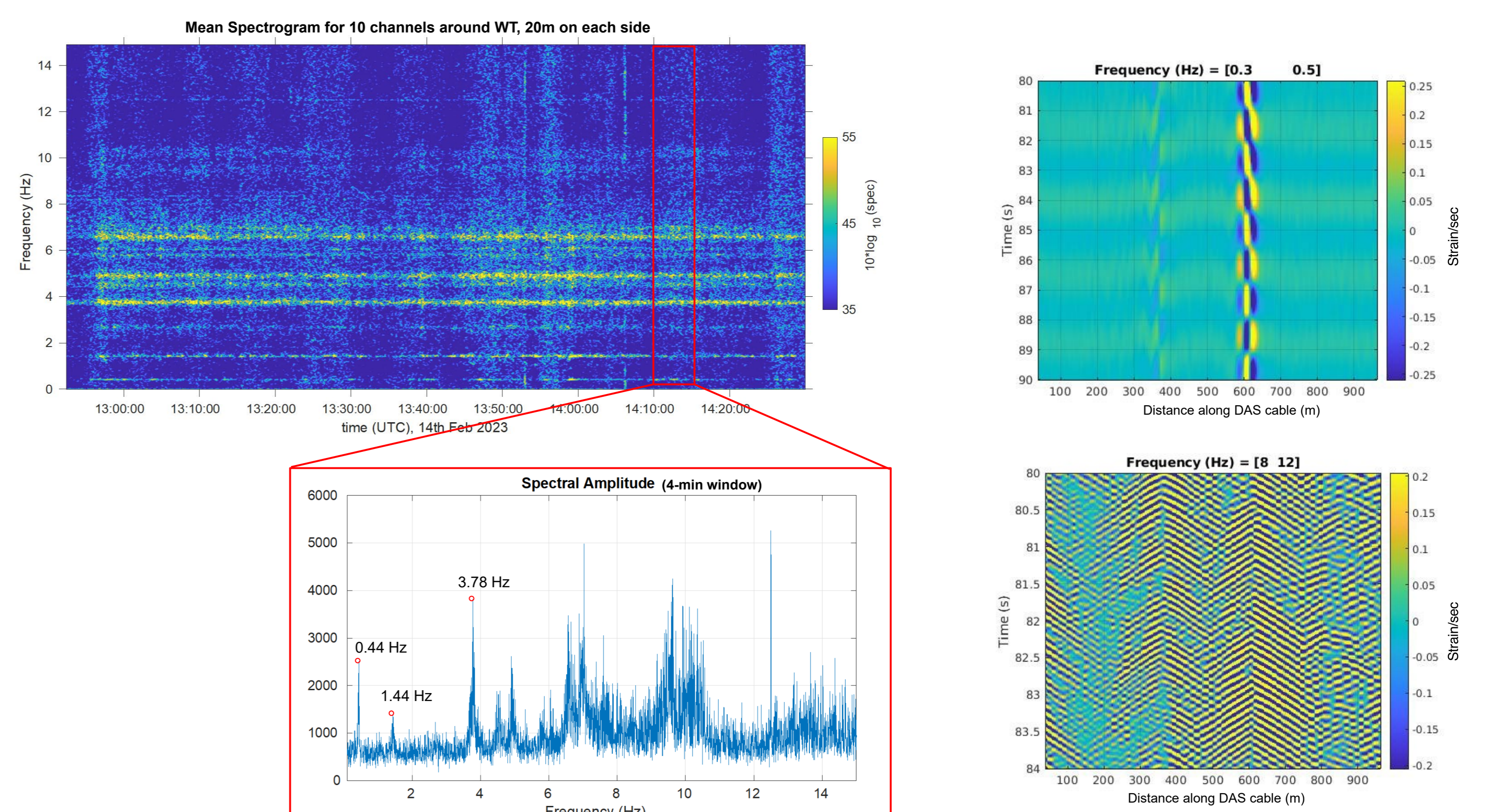
Nauen Wind Turbine Field



FIELD DEPLOYMENT



Snapshot of the seismic wavefield inside the wind farm



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