WaveMapper

THOMAS KABEL, POSTDOC, AARHUS UNIVERSITY

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THE PROJECT: WAVEMAPPER

A collaboration project funded by Danish Offshore Technology Centre

- 3 mio. dkkr project (400.000 Euro)
- Summer 2022 – Summer 2024
- PI: Christos T. Georgakis
- Secondary investigators: Thomas Kabel & Julie C. Kristoffersen
- Joint project-partners: TotalEnergies and haw MetOcean ApS
- Collaborators: DHI

THE PROJECT

TotalEnergies article: Extreme ocean waves + new technique is needed

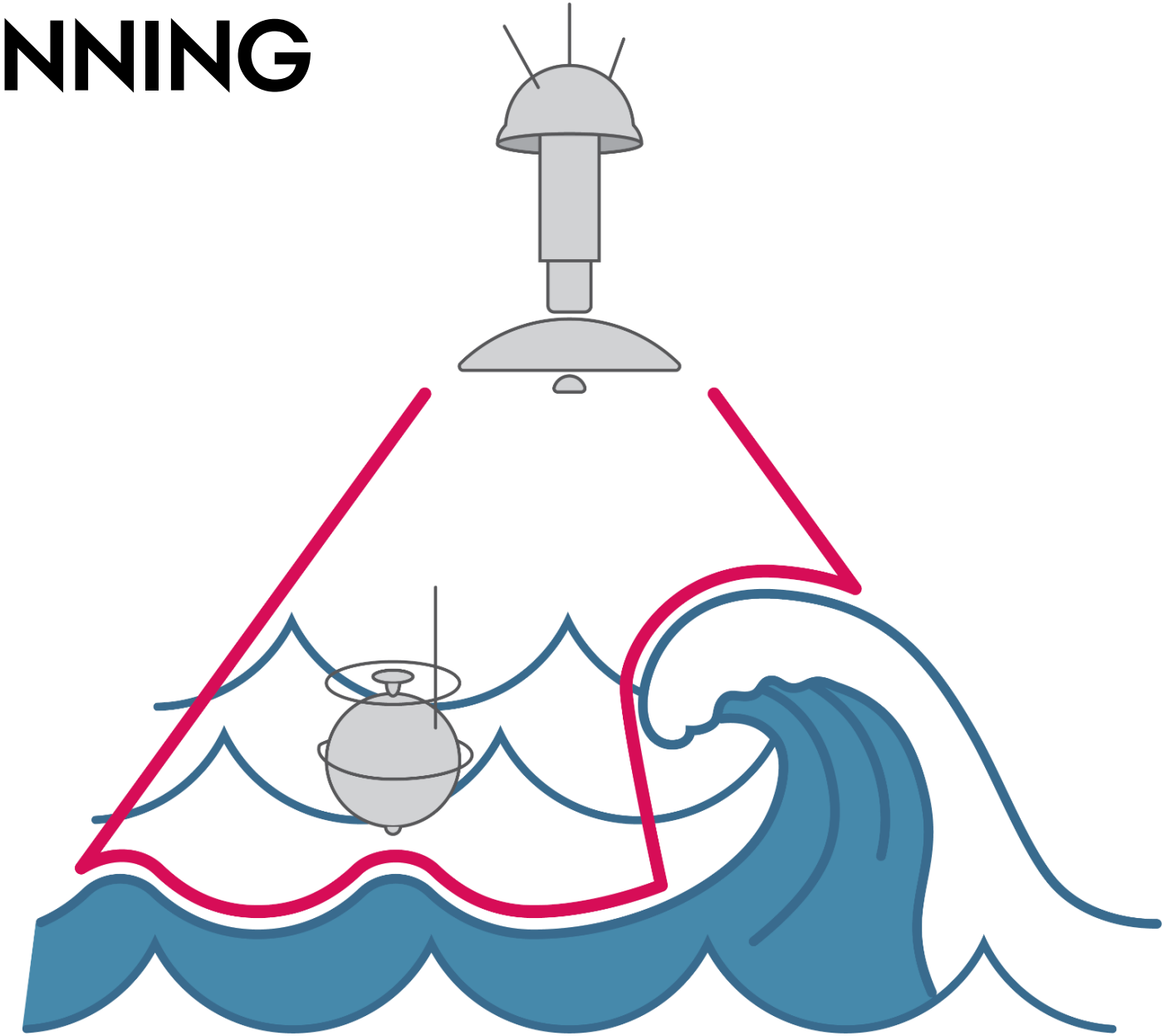
PhD-Project: Initial project with Wave Mapper at full-scale

WaveMapper: Extended verification and evolving methods

THE BEGINNING

© Tychsen et al., OSCR2016 – TotalEnergies

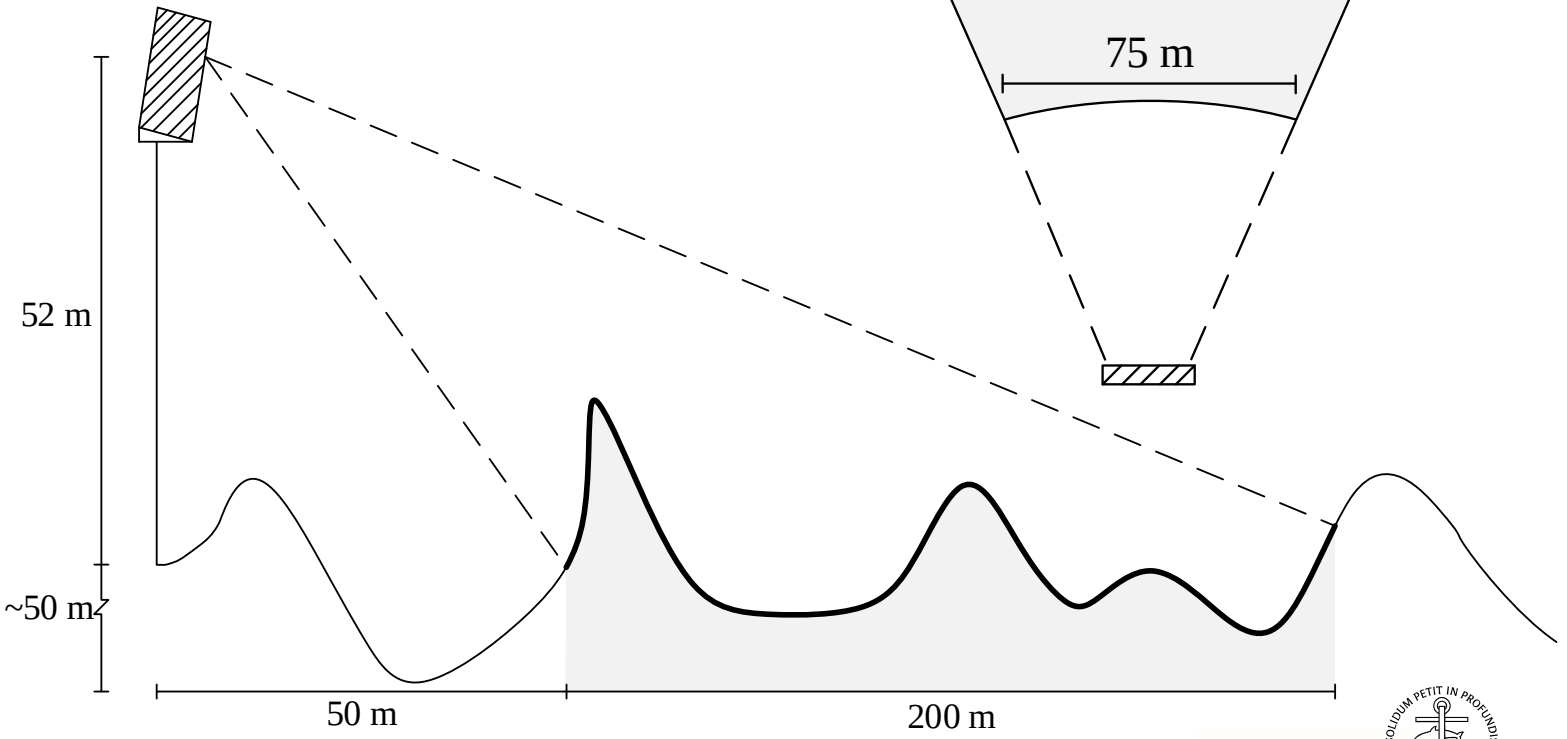
THE BEGINNING



THE MIDDLE

Location

Area of acquisition



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29 NOVEMBER 2022 | THOMAS KABEL
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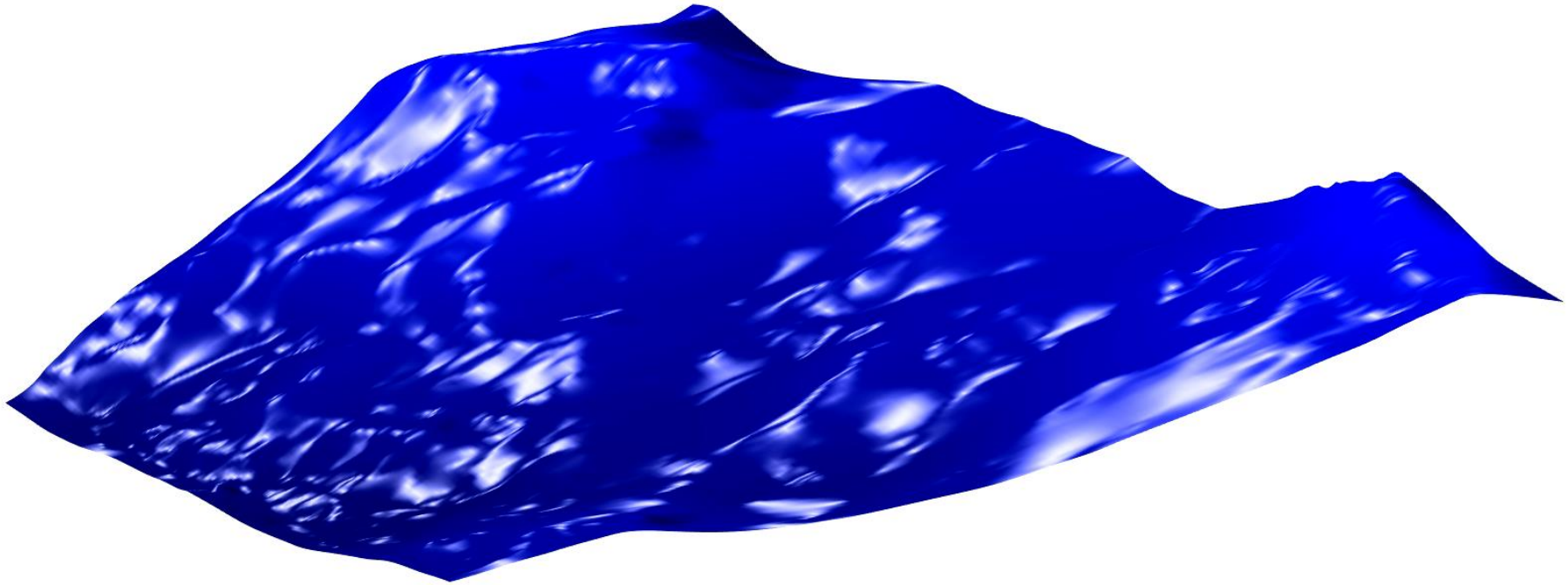
THE MIDDLE



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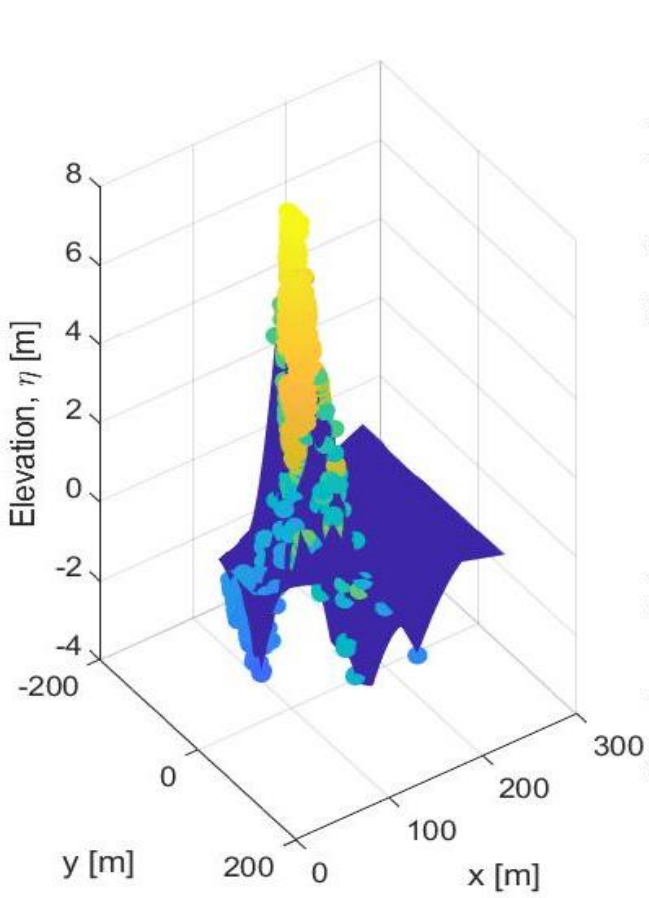
THE MIDDLE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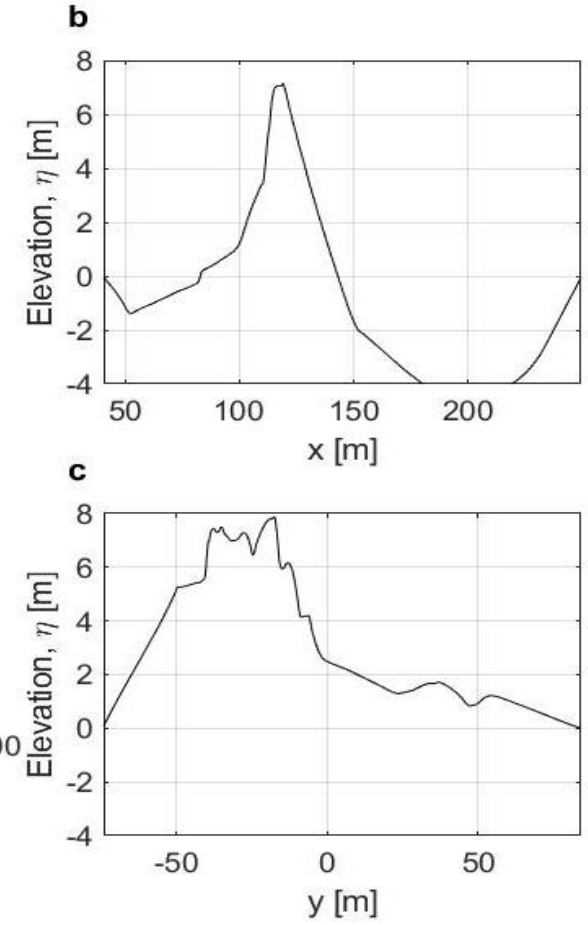
4
2
0
-2
-4
-200
0
200
y [m]
0
100
200
300
x [m]


b
Elevation, η [m]
8
6
4
2
0
-2
-4
50
100
150
200
x [m]
c
Elevation, η [m]
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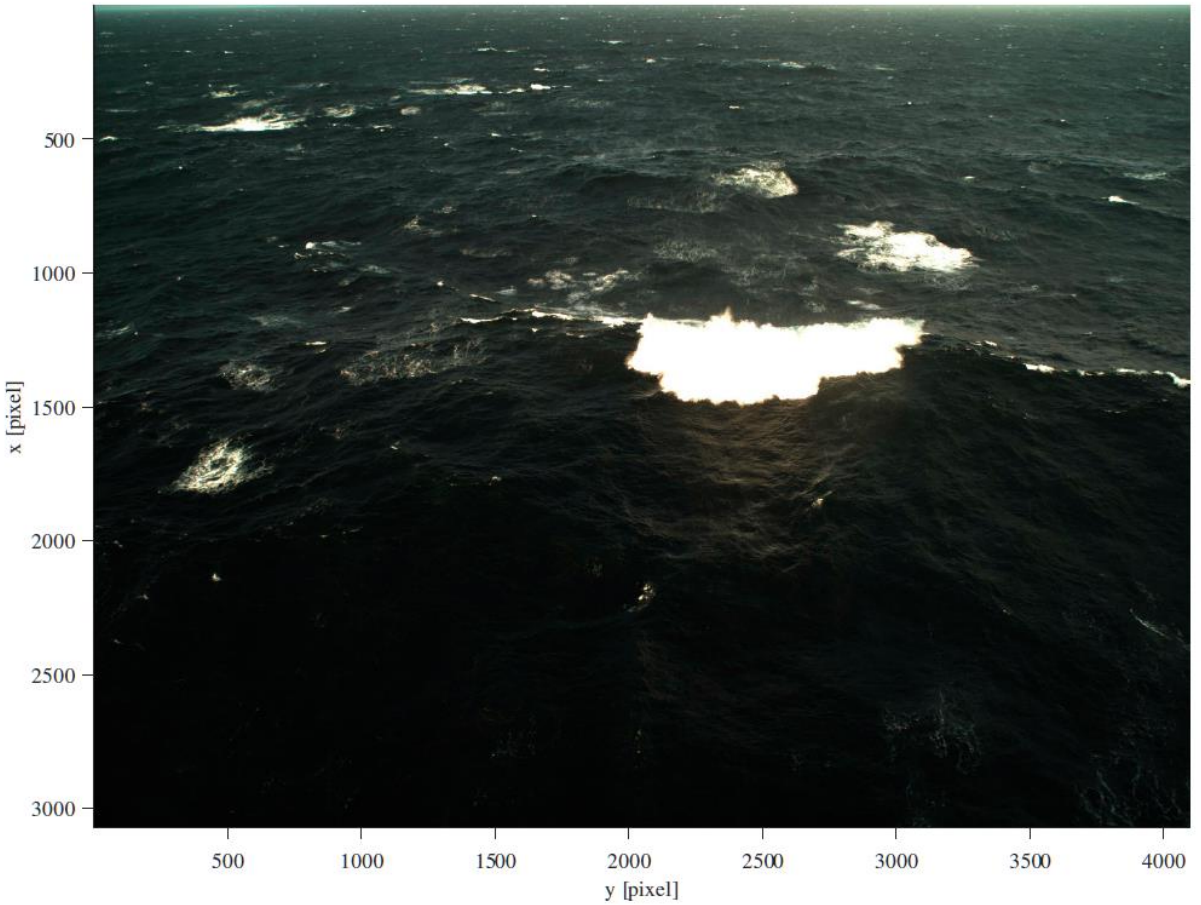
4
2
0
-2
-4
-50
0
50
y [m]


x [pixel]
500
1000
1500
2000
2500
3000
y [pixel]
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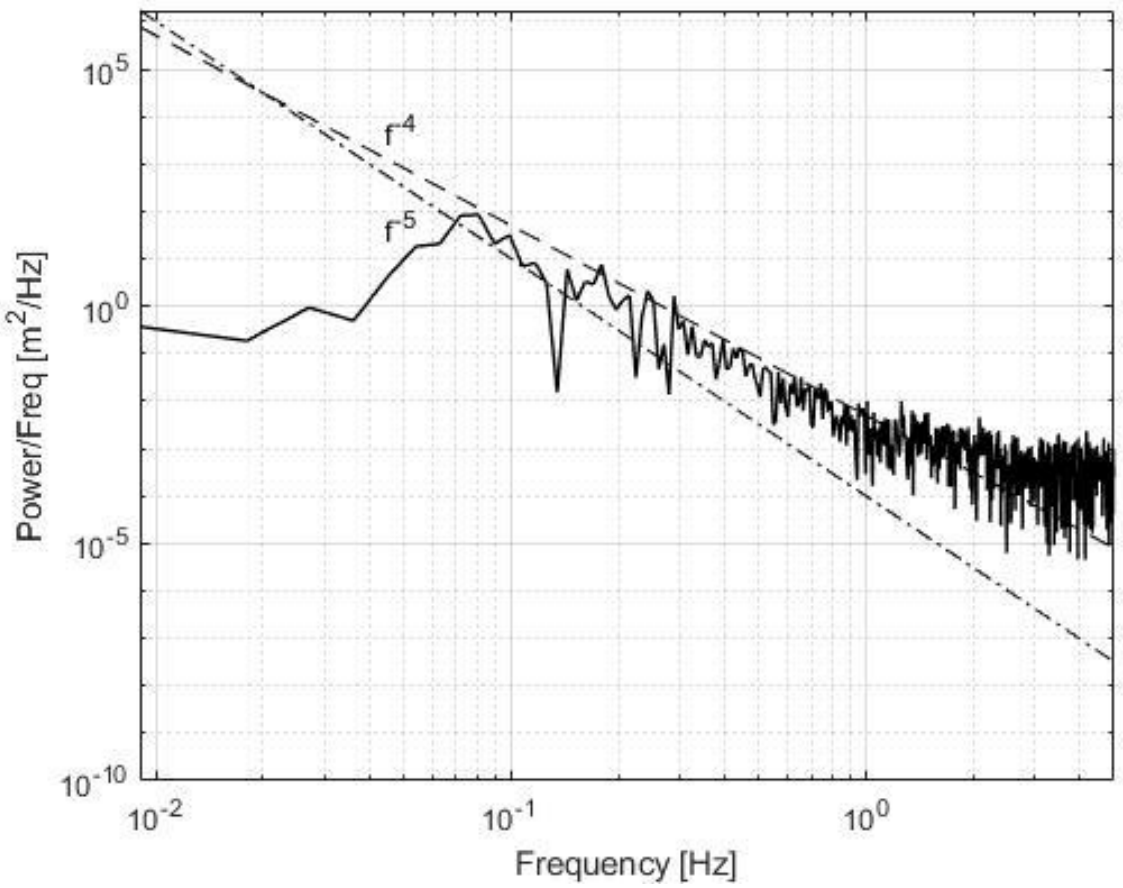
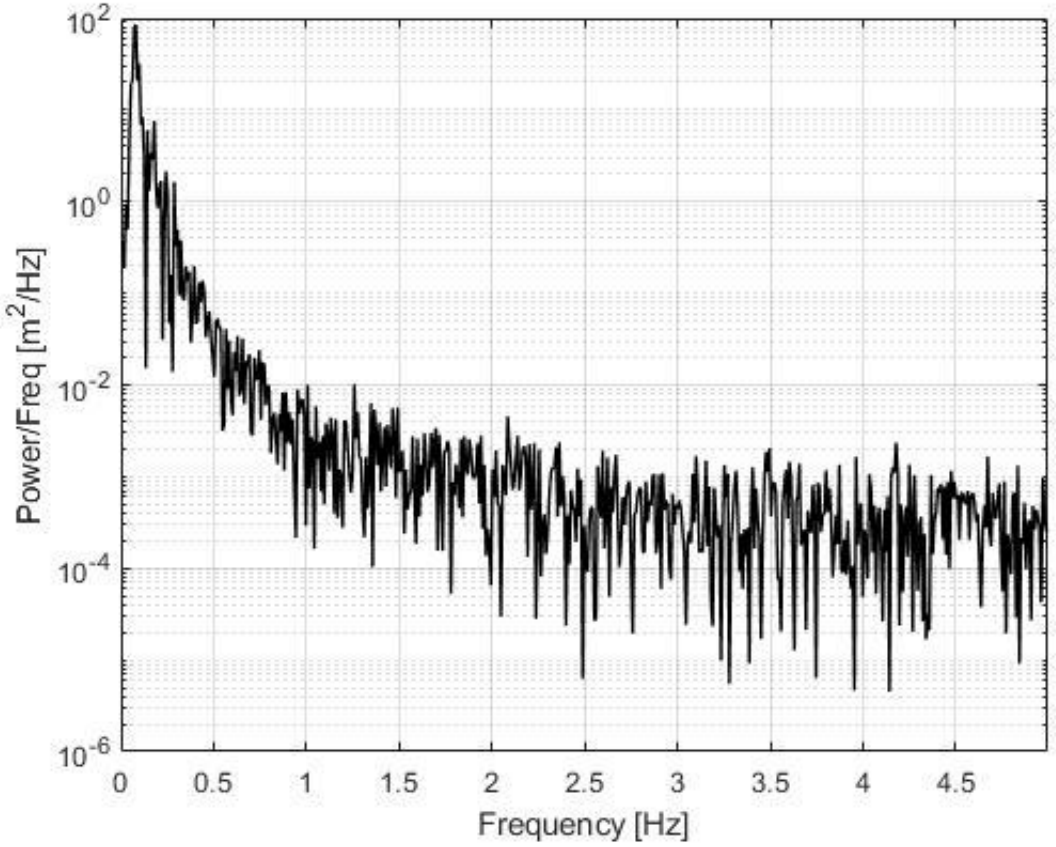
1000
1500
2000
2500
3000
3500
4000

THE MIDDLE

f^{-4} : Zhakarov (1999) – tail decay





WAVEMAPPER

Validation

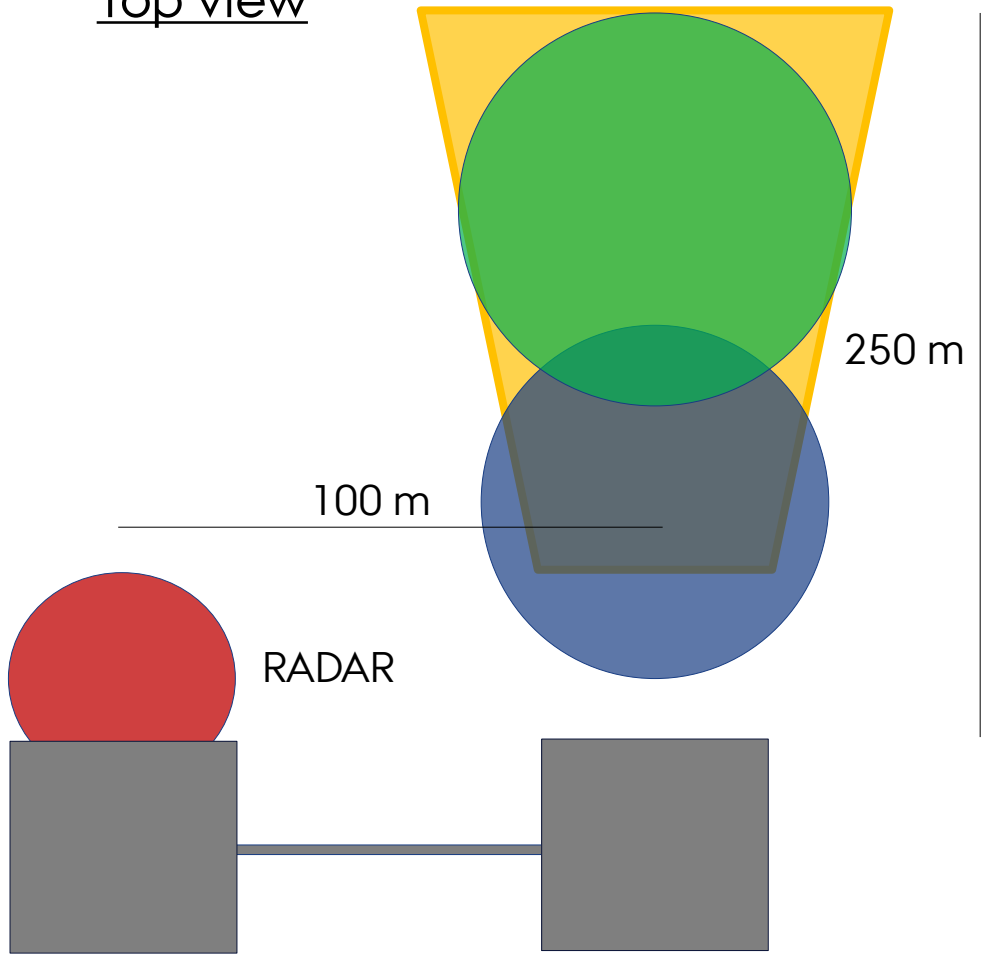
- Comparison between four different methods/systems
- Full-scale measurements for entire season

Evolution

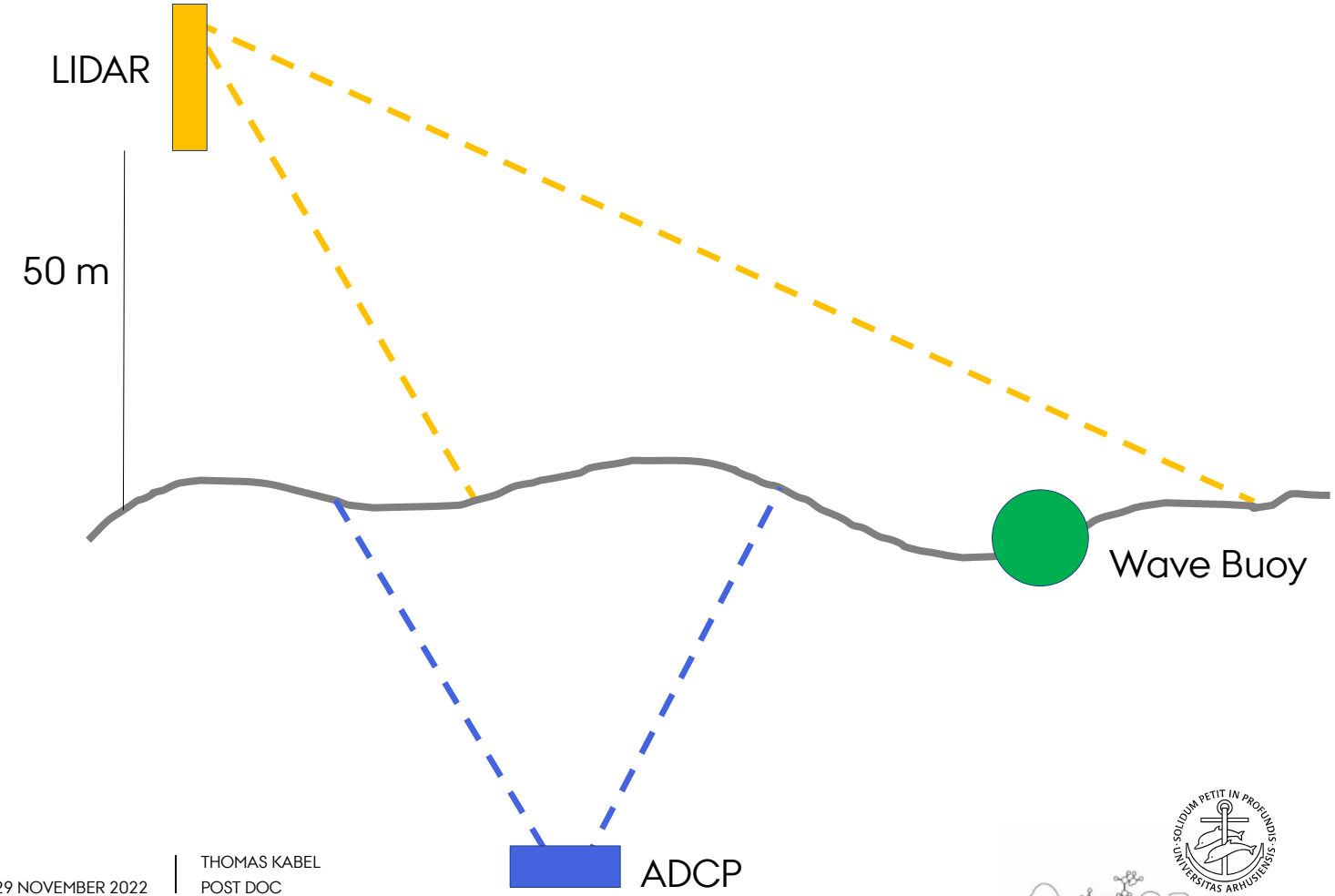
- Increase resolution of data (space-time interpolation, more frames)
- Evaluating on a new wave breaking data base, with multiple entries.

WAVEMAPPER: VALIDATION

Top view



Side view



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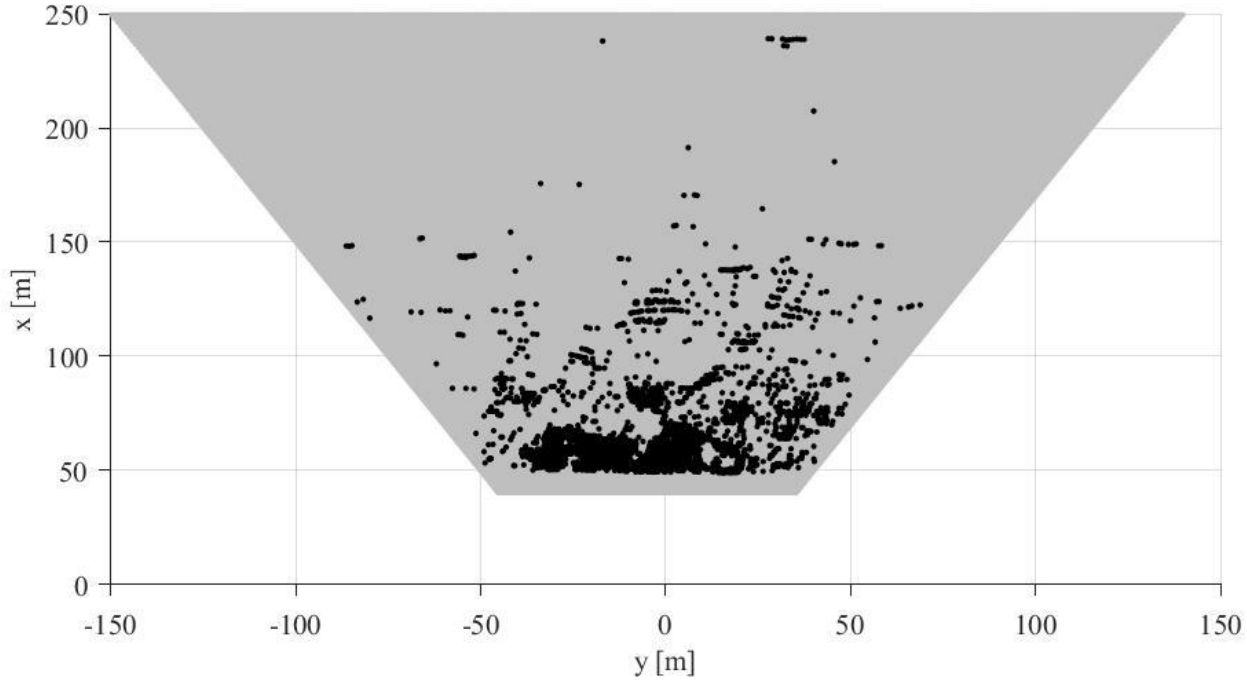
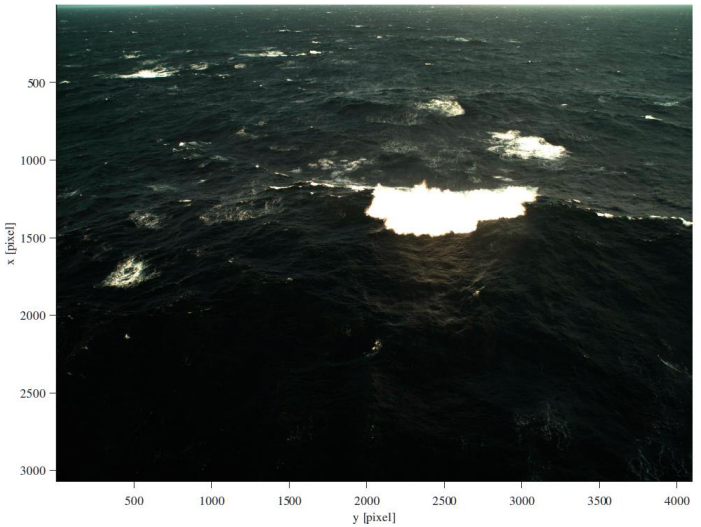
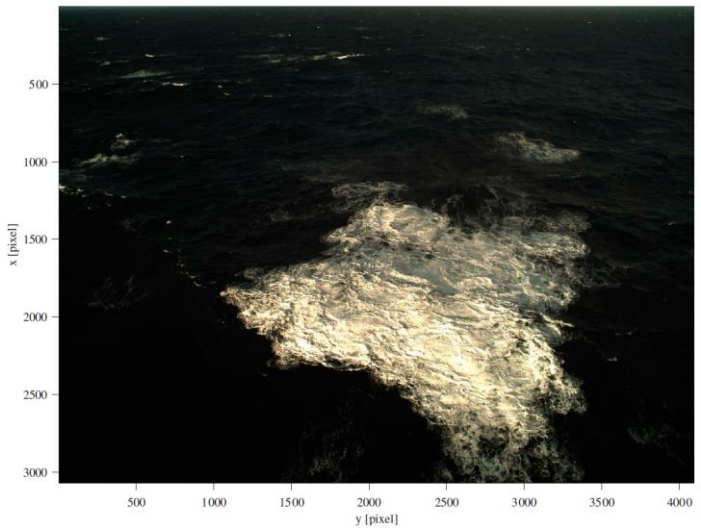
WAVEMAPPER: EVOLUTION







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