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## Verification of Simpack- Moordyn coupling using 15 MW IEA Wind reference model Windcrete

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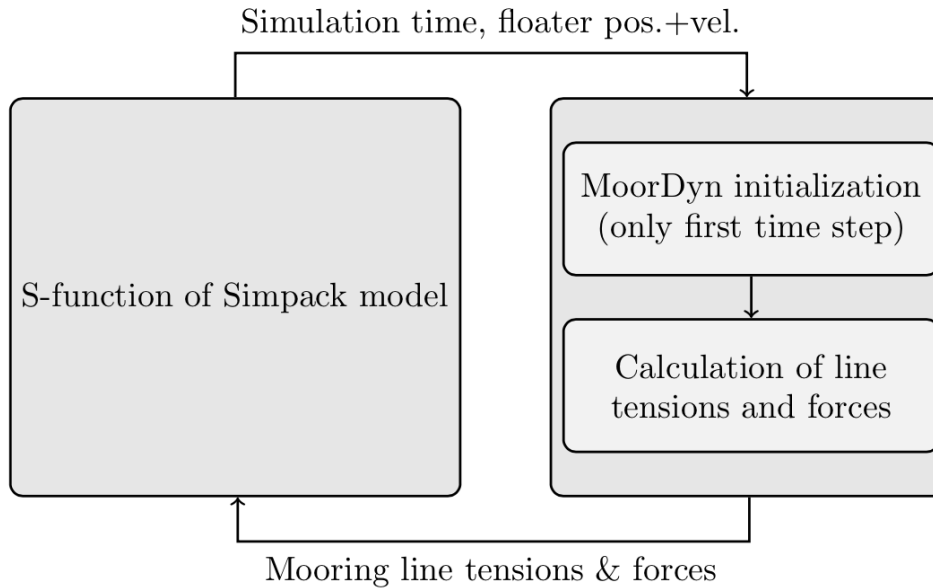
# Introduction

- Wind turbine: 15 MW IEA reference wind turbine
- Floater: Windcrete spar buoy
- Coupling of Simpack and Moordyn
- Verification through comparison of the outputs of Moordyn coupled to OpenFAST v2.1.



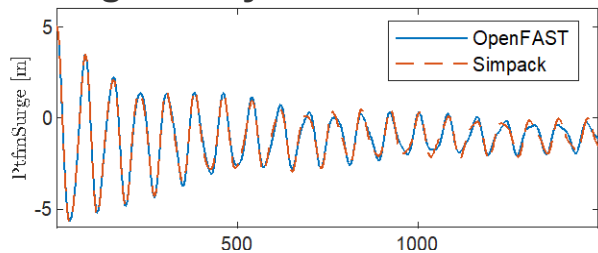
D1.2 design basis, Corewind 2019

# The Coupling Process

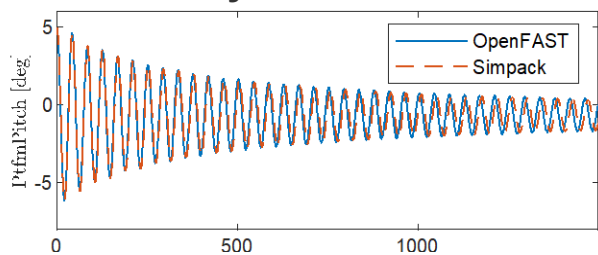


# Results

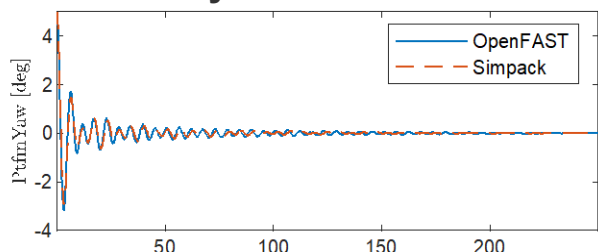
## Surge decay



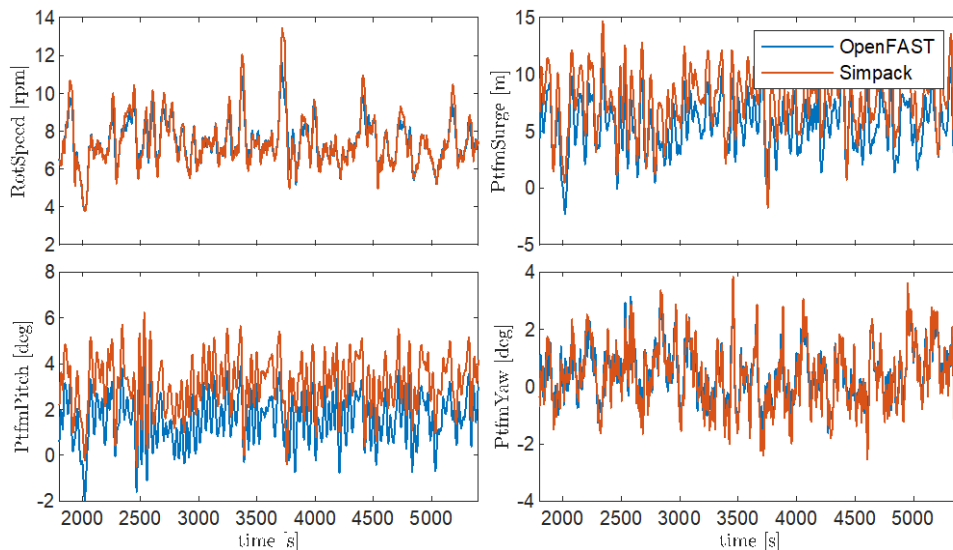
## Pitch decay



## Yaw decay



Wind: ETM 10.5m/s,  
Waves: NSS Hs=2m,  
Tp= 6s



# Conclusion & Outlook

- Successful coupling after verification with OpenFAST
- Matching static equilibrium, decay tests, regular waves, DLC 1.3, DLC 1.6 and DLC 6.1
- Both Moordyn and Simpack are well suited for the coupling
- Another coupling with the semi-submersible Activefloat platform showed that the process is easily adaptable to other models with different mooring line configurations.

## Thank you!

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