Title: Offshore Geotechnics and Wind Turbine Foundations

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The rapid expansion of offshore wind energy necessitates innovative geotechnical solutions to ensure the stability and performance of offshore wind turbine (OWT) pile foundations. As the industry evolves, it becomes increasingly important to understand soil-structure interaction, the effects of pile installation, and the lifecycle performance of OWT piles. This mini-symposium aims to bring together experts from academia, industry, and research to discuss recent advancements, challenges, and future directions in offshore geotechnics related to wind turbine foundations. In addition, this symposium will foster and conclude the research carried out during a Sino-German mobility research project.

Contributions are welcome on, but not limited to, the following topics:

- Soil-structure interaction
- Pile installation techniques and their effects on short- and long-term pile capacities
- Constitutive models for soils, particularly in capturing their high-cycle responses
- Advanced numerical methods for simulating large deformations and long-term service responses of pile foundations
- Model and centrifuge testing of pile foundations
- Field and case studies
- Future trends in emerging technologies in offshore geotechnics

This mini-symposium will serve as a platform to advance the field of offshore geotechnics and deepen our understanding of pile foundations for OWTs. By fostering collaboration and knowledge exchange, we aim to contribute to the sustainable development of offshore wind energy.