



Next Step in Ultrasonic Inspection of Wind Turbine Blades

Jason Hwang | WP1 Workshop, 24 November 2022, Marknesse





- Defects in the wind turbine blade
- Progress in AIRTuB
- Lessons learned
- Next generation sensor package for the future









Viable inspection method: ultrasonic inspection









Progress in AIRTuB Sensor Package Design









Wheel Probe Encoder onatest LFWP 0.5 MHz) 5.5 Kg

IPEX



≈ 15 kg

Progress in AIRTuB Lessons Learned & Challenges

- Modular design concept has led to:
 - Weight problem of sensor package
 - Weight problem due to crawler-sensor interface
 - Scan path optimization with crawler was limited

- Typical dimension
- Quality
- Defects

Next Generation Sensor Package Miniaturization

Ref: [7]

Ref: [6]

Miniaturized DAQ, communication system and battery pack (examples)

Light PAUT holder design

Next Generation Sensor Package PAUT Concept Try-Out

Field ab AIRTUB

Next Generation Sensor Package Next steps in the future

TUDelft

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