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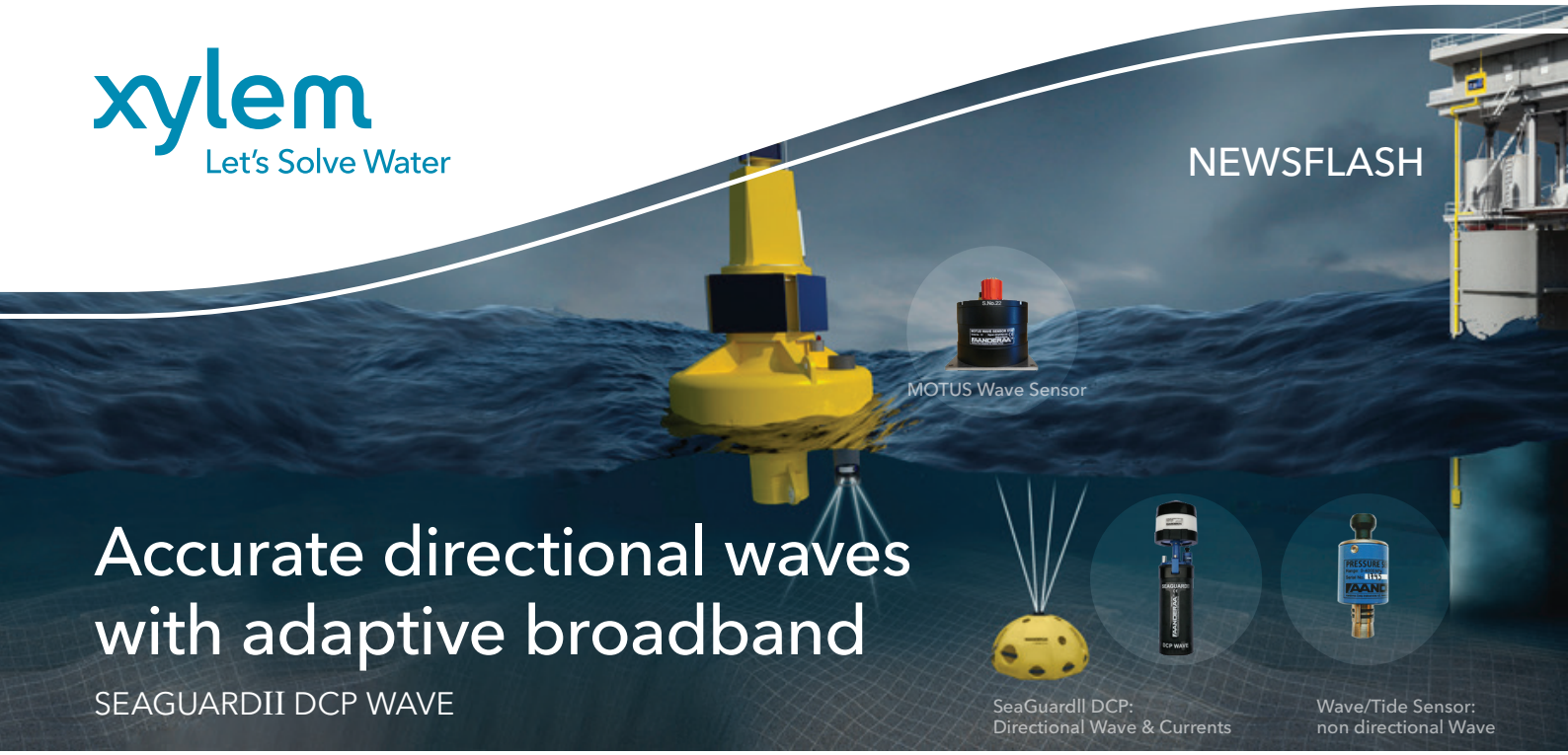
Let's Solve Water

NEWSFLASH



Accurate directional waves with adaptive broadband

SEAGUARDII DCP WAVE

At Aanderaa we have focused on three different methods to detect waves, often in combination with currents and water quality measurements.

Recently directional wave capabilities were added to the SeaGuardII ADCP platform to expand its multi-parameter possibilities.

The orbital velocities of the waves are measured with four acoustic beams at 4 Hz close to the surface, which is accurately detected with an on-board pressure/wave/tide sensor.

A challenge to measure the orbital velocities is that these vary from some centimetres per second for small waves, to metres per second for large waves. Broadband is suitable to accurately measure lower speeds but not well adapted for the higher velocities. To address this we developed a unique adaptive pulse technology that automatically and seamlessly switches between 3 different acoustic modes, long lag broadband, short lag broadband and narrow band, to optimize the measurement quality and calculate waves "on the fly" internally. On the SeaGuardII instruments the Acoustic Wave Measurements are complemented with pressure based non-directional wave information for redundant wave data and tidal information at mm resolution.

The SeaGuardII-DCPS Wave Solution is suitable for a wide range of applications in which wave, current and other information is required simultaneously. For more information about field trials please look in this white paper and click here for operational real-time data.

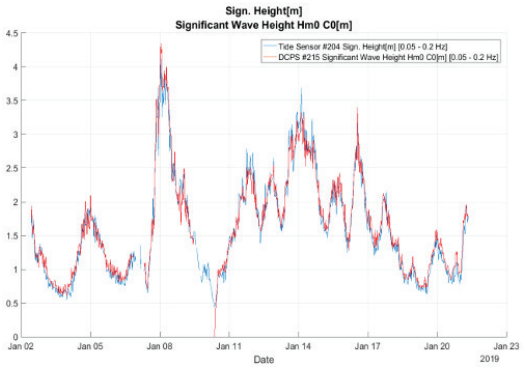


Figure 1 is an example comparing wave heights from acoustic and pressure based field measurements.

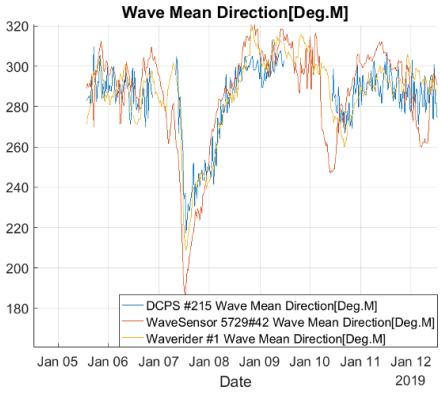


Figure 2 compares directional wave measurements from three different systems, including a dedicated wave buoy, from off the coast of Norway.

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