ORE SEMINAR

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OCEAN AND RESOURCES ENGINEERING

IN THE SCHOOL OF OCEAN AND EARTH SCIENCE AND TECHNOLOGY AT THE UNIVERSITY OF HAWAI'I AT MĀNOA

Remote Sensing of Whales Using Thermal and Visual Imaging

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Alfred Wegener Institute

MSB 114

Wednesday, February 26

3:00-3:30 pm Coffee Hour
3:30-4:30 pm Seminar

Abstract

For centuries, the spotting of a whale was the apex of days of tedious watch keeping. This skill – lost with the demise of commercial whaling - has recently regained significance, as it forms the basis for scientific cetacean censuses and mitigation efforts of navies and marine geophysical prospection, which both employ large acoustic sources. This research focused on design the development of a 360° automatic whale detection system based on a thermal imaging scanner. The 4K video stream is analyzed in real time using modern computer vision methods and allows to reliably detect whale spouts in up to 5km distance. A coupled visual imaging system allows for identification of automatically detected whales. The IR system detects about twice as many whales as visual observers during the same time, and is less effected by environmental conditions like sea-state and wind speed. Moreover is works day and night.

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