

Calibrating a 200-kHz Multibeam Sonar in a Large Freshwater Tank

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Abstract: In the course of developing protocols for calibrating multibeam sonars used in surveying fish, a calibration trial was conducted in a large, freshwater, indoor tank at the University of New Hampshire. The same Simrad SM2000 Multibeam Echo Sounder that was calibrated at the Woods Hole Oceanographic Institution (WHOI) Iselin Dock sea-well facility the week before was calibrated using similar procedures. Rotation was accomplished with a Yuasa CNC rotary table, with

wireless control. Triggering of the sonar was effected through MatLab software. Measurement results are expressed through directivity patterns of the main lobes of beams formed in sectors spanning two azimuthal ranges: [15,15] and [45,75] deg relative to the acoustic axis in the equatorial plane of the receiving transducer array. Comparisons are made with corresponding measurements at the WHOI facility.

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