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**Phase calibration of hydrophone and its application in the  
reconstruction of underwater acoustic waveforms**

Yuebing Wang, Shui Li and Yongjun Huang  
Hangzhou Applied Acoustics Research Institute, 96 Huaxing Road, 310012 Hangzhou, China

**Abstract:**

In this paper, both the reciprocal method and the optical method for the calibration of plural sensitivities of hydrophones are reviewed firstly. Then an experimental system is introduced in which with a 1.5MHz focusing transducer acting as a position indicator, phase responses of hydrophones can be calibrated easily and accurately. Measurements are carried out for different types of hydrophones and results are given in the frequency range 20kHz to 400kHz. Finally, with the plural responses of hydrophones included in the construction for the transfer function of the receiving system, acoustic waveforms produced by a projector are reconstructed in wide band from received signals, and a few conclusions are summarized from the experiment.