



Marine Physical Laboratory

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SSE and Spinnaker Experiment Support

William S. Hodgkins

Final Report to the
Office of Naval Research
Contract N00014-89-D-0142 (DOR35)
for the Period 2-2-93 - 1-31-94

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Abstract

The objective of this program was to assist NRaD in the planning and execution of two experiments off the coast of southern California in the shallow water test bed region bounded by Point Loma (San Diego), San Clemente Island, and Camp Pendleton.

Research Summary

The first, SWellEx-1 (Shallow Water evaluation cell Experiment #1), was carried out in August 1993 west of Point Loma in approximately 200 m water [1]. During SWellEx-1, two hydrophone arrays were deployed. The first was a MPL 48-element vertical array deployed from the R/P FLIP. The second was a McDonnell-Douglas 8x8-element horizontal planar array deployed on the seafloor and cabled back to FLIP for data recording. SWellEx-2 (also known as the Site Specific Experiment or SSE) was carried out in September 1993 adjacent to San Clemente Island in both 450 m and 1200 m water [2]. During SWellEx-2, two hydrophone arrays also were deployed. The first was the NRaD SSE (Site Specific Experiment) engineering test array which was cabled back to San Clemente. The second was a MPL 64-element vertical array deployed from the R/P FLIP.

Publications

Both of these experiments involved similar efforts. Prior to each experiment, there were several experiment planning meetings with all participants. In SWellEx-1, the participants included MPL, NRaD, NRL, NAWC, McDonnell-Douglas, Western Instruments, PAI, and Lockheed. In SWellEx-2, the participants included MPL, NRaD, NOAA, PAI, and Lockheed. During each experiment, MPL personnel were involved in the deployment of arrays, surveying transponders used for acoustic array element localization (AEL), real-time data recording, quick-look analysis, and source tow operations. Then, at the conclusion of each experiment, MPL personnel were involved in collecting together all experiment logs and making copies of data tapes.

Included as part of the preparation for SWellEx-2, MPL designed and implemented the data recording system for the NRaD SSE array. This hardware served as a prototype for the recording system being developed for Project Spinnaker.

Publications

1. "SWellEx-1 Test Plan," NRaD/NCCOSC (August 1993).
2. "SWellEx-2 Experiment Plan," NRaD/NCCOSC (September 1993).

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