

INTERNATIONAL CONFERENCE IN SHALLOW-WATER ACOUSTICS

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LONG-TERM GOALS

Our long-term goal is to formulate and conduct a collaborative international experiment in the seas of China. Such an experiment will focus on studying the physics and variability of sound propagation and scattering that are unique to the coastal waters of the Asian Pacific region.

SCIENTIFIC OBJECTIVES

The FY97 objective was to promote scientific exchange and establish a dialog between Asian and US scientists who are active in shallow-water acoustics research.

APPROACH

The approach was to hold an international conference in China as a growth from the ONR USA-China Conference in Shallow-Water Acoustics held at the Naval Postgraduate School in December 1995. An international conference in China could attract many of the top-notch Asian scientists to attend. It could help to establish a dialog between the Asian and US underwater acoustics communities, and provide a forum to exchange and discuss the latest scientific ideas, approaches and results in shallow-water acoustics which might form the basis for future collaborative research efforts between the US and Asian communities. It was proposed that the international conference in shallow-water acoustics be held in Beijing, China. The conference would be jointly organized by Georgia Institute of Technology (Dr. Zhou), the National Laboratory of Acoustics of the Chinese Academy of Sciences (Prof. Zhang) and the Naval Postgraduate School (myself).

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WORK COMPLETED

I worked closely with the other organizers (Dr. Zhou and Prof. Zhang) to coordinate the conference logistics and plan the conference agenda. I co-chaired the technical committee to assist in identifying topics for special sessions, selecting invited speakers and session chairs, and assigning contributed papers to the appropriate sessions. I also served on an ONR delegation to visit several oceanographic and acoustic laboratories in China following the conference. The post-conference tour was designed to begin the development of an international steering group to formulate and execute a collaborative field study in the Yellow Sea or the South China Sea.

RESULTS

The International Conference in Shallow-Water Acoustics (known as SWAC '97) was successfully held in Beijing, China, from April 21 to 25, 1997. There were many participating countries. The conference consisted of invited and contributed papers on important topics of shallow-water acoustics.

A major accomplishment is that SWAC '97 and the post-conference tour have led to a strong dialog with the Chinese, Japanese, Korean, Singaporean, Russian and Indian scientists. An international steering group workshop to investigate the scientific, engineering and logistic rationales that might form the basis for a collaborative international experiment in the seas of China is now in the planning.

IMPACT/APPLICATIONS

The 1995 USA-China Conference in Shallow-Water Acoustics and SWAC '97 can potentially lead to a collaborative international experiment in the seas of China. Such an experiment will allow for the measurement of a comprehensive data set to study the physics and variability of sound propagation and scattering in the Asian Pacific shallow waters.

RELATED PROJECTS

SWAC '97 is strongly related to the 1995 ONR USA-China Conference in Shallow-Water Acoustics and the upcoming ONR International Workshop on Shallow-Water Acoustics in San Francisco. It represents one of the important steps toward the formulation of a large-scale international experiment in the Seas of China.

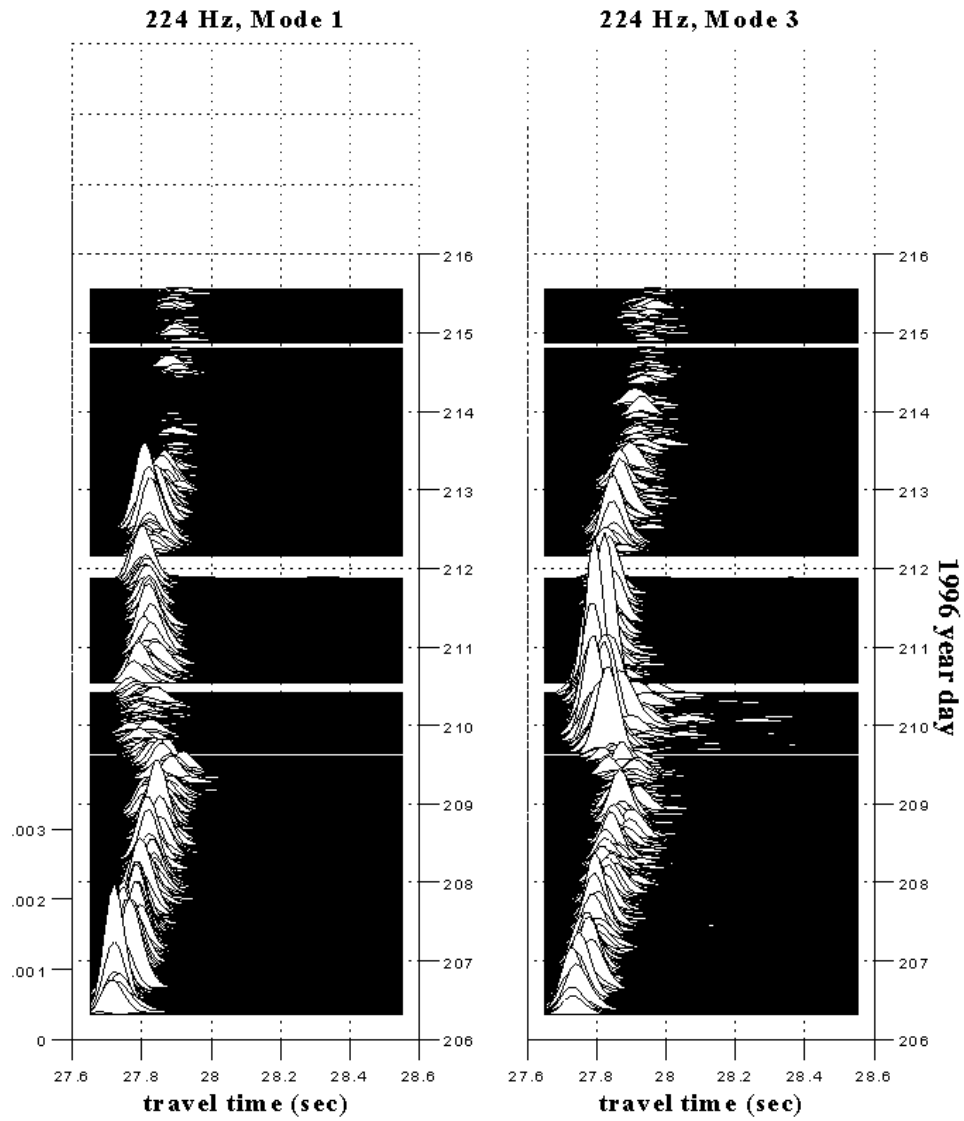


Figure 1. Observed temporal variability of Modes 1 and 3 over a 10- day period. The structure shown were obtained by modal beamforming the VLA receptions of the cross- front, upslope 224 Hz She#break PRIMER summer transmissions .