

Preface

Major aspect of the present International Symposium on Deep Sea Research in the plate margins is to collect and present some results from recent activities of our research programs and related scientific works. The scientific activities of the Deep Sea Research Department (DSRD) of JAMSTEC and other colleagues up to 1996 are presented in the symposium associated with the Workshop on Super Cross Well Tomography and CORK (Circulation Obviation Retrofit Kit) to elucidate the "Dynamic Character" of the ocean floor in and around plate boundaries and the tectonics of the "Ocean-Continent Lithosphere Boundary".

The deep sea research of JAMSTEC has been run initially under the guidance of the Science and Technology Agency (STA) of Japan since 1971 with the aspect of national as well as international programs. DSRD seeks to characterize the nature, dynamics, origin and evolution of the oceanic lithosphere, with special attention to the oceanic plates boundaries and their margins. Chemical and biological aspects of the dynamic evolution and extinction of the oceanic lithosphere are also challenged. Believing that these goals are best attained through international, interdisciplinary collaboration, DSRD has established national and international, interdisciplinary projects to pursue its specific research objectives. Detailed reports and information on the contents of these programs are found in the series of DSRD yearly reports.

Among them, study on the dynamic character and deformation of the oceanic lithosphere in the subduction zones is one of the themes of DSRD. Recent development of DSRD is directed also to establish another core research group for the Earthquake Potentiality Evaluation Program (EPEP) ever since the hazardous quake in the Kobe urban area in 1995. This program includes the studies on the nature of plate subduction, the crustal deformation and the significance of seepage of fluids and gases, the geometry and properties of the ocean-continent transition, the rates and causes of forearc and backarc magmatism, and correlation of deep sea biota to the dynamic behavior of the oceanic crust.

Of the number of symposia and workshops organized so far by DSRD, the present meeting is certainly one of the most fruitful and successful occasions for recent geodynamics research. The present workshop was conceived to come up with a new frame for number of seafloor experiments which can only be conducted by cooperation with ongoing Ocean Drilling Program (ODP). The discussion and review from the workshop should lead to establishment of future research direction. The workshop was organized by STA and JAMSTEC and benefited from the co-sponsorship of Earthquake Research Center, Association for the Development of Earthquake Prediction (ERC, ADEP).

The whole meeting was held at Tokyo and Yokosuka, Japan on 10-12, December 1996. A total of 131 scientists from eight countries, including leading specialists in this field, attended the meeting. We here publish a proceedings containing a number of extended abstracts some of which are close to a full scientific paper.

We would like to thank the organizers and coordinators (session chairpersons) who made this symposium and workshop possible. We are grateful to the scientists that reviewed the collected papers of these proceedings for their efforts and the time spent on improving the original manuscripts. It is our hope that the book will contribute to stimulate further research related to dynamics of the oceanic lithosphere and their boundaries.

Hajimu Kinoshita: Director of the Deep Sea Research Department, JAMSTEC