

## **Flower Structures and Strike-slip Deformation off Southwestern Taiwan**

Jin-Der Chow<sup>1</sup>, Tzong-Der Lai<sup>1</sup>, Char-Shine Liu<sup>2</sup> and Ho-Shing Yu<sup>2</sup>

(Manuscript received 22 March 1996, in final form 18 November 1996)

### **ABSTRACT**

**Seismic data reveals the existence of flower structures offshore from southwestern Taiwan. Structures similar to transpressional flower structures occur off the coast from the cities of Tainan and Kaohsiung, whereas transtensional flower structures occur off the coast in Areas II&IV. The flower structures suggest that the structures in this area are influenced by strike-slip deformation. The trend of flower structures seems to conform to the orientation of secondary synthetic shears and antithetic X shears of the right-lateral strike-slip model. The mud diapirs in this study area were probably partly initiated by the en echelon folding during strike-slip deformation. That the transpressional flower structures develop in the orientation of secondary synthetic shears, while transtensional ones develop in antithetic X shear orientation, is possibly controlled by the mechanisms of convergence and divergence. The arrangements of the structures are also affected by pre-existing structures.**

**(Key words: Seismic, Flower structure, Strike-slip fault, Mud diapir, Southwestern Taiwan )**

### **1. INTRODUCTION**

The en echelon arrangement of mud diapirs offshore from southwestern Taiwan attracts the attention of these authors (Figure 1). It is believed that the en echelon pattern has some sort of relationship with the tectonic process. In general, tectonic features are most easily detected by analyzing seismic data. The seismic reflection profiles acquired by two cruises, designated number 320 and 329, aboard the *R/V Ocean Researcher 1*, are analyzed. Flower structures and different kinds of strike-slip faults are discovered in this offshore area. The en echelon mud diapirs and the fault orientations can seemingly be interpreted through the strike-slip deformation model.

---

<sup>1</sup> Institute of Applied Geophysics, National Taiwan Ocean University, Keelung, Taiwan, R.O.C.

<sup>2</sup> Marine Geology and Geophysics Division, Institute of Oceanography, National Taiwan University, Taipei, Taiwan, R.O.C.