



Transitional tectonics of the westernmost Okinawa Trough revealed by high-resolution seismic reflection data

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The western termination of the Okinawa Trough is a tectonically complex area in the Ryukyu trench-arc-backarc system. It is a transitional zone between two tectonic regimes. In the eastern part, tectonics with E-W trending normal faulting focal mechanisms indicates an active N-S rifting of the Okinawa Trough. In the western part, tectonics with ENE-WSW left-lateral strike-slip faulting is associated with the general trend of the Taiwan orogenic belt. There is a seismicity gap in between; however, the structure of this transitional zone is not very clear. Based on high-resolution bathymetric data, we find a NE-SW trending structure located between those two tectonic regimes or major seismic zones. This structure could reveal key tectonics of the transitional zone. In order to understand the characteristic of the transitional zone, we have collected several high-resolution seismic reflection profiles, roughly perpendicular to the linear structure offshore Ilan Plain. This structure reveals the tectonic transition from normal faulting in the east to strike-slip faulting in the west.