

EGU2020-11862

<https://doi.org/10.5194/egusphere-egu2020-11862>

EGU General Assembly 2020

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



Research progress on the Zhongnan-Liyue Fault Zone in the South China Sea Basin

Ziying Xu, Jun Wang, Hongfang Gao, and Yongjian Yao

Guangzhou Marine Geological Survey, Guangzhou, China (ziyingx06@scsio.ac.cn)

We give a review of the up-to-date research situation about The Zhongnan-Liyue Fault Zone (ZLFZ), then analyze the spatial distribution and tectonic deformation feature of the ZLFZ based on the geophysical data including topographic, seismic, gravity and magnetic data. The results show that the ZLFZ has obvious north-south segmentation characteristics in in the South China Sea Basin. The north section, which is between northwest sub-basin and east sub-basin, is a narrow zone with the width of ~16 km, and is NNW trend from 18°N,115.5°E to 17.5°N,116°E. Meanwhile ,the south section, which is between southwest sub-basin and east sub-basin, is a wide zone with the width of 60-80 km, and is NNW trend from the east of ZhongshaBank to the west of LiyueBank. The main fault of the ZLFZ is NNW trend along the seamounts ridge of Zhongnan. the ZLFZ of transition region is NNE trend from the north section to the south section. According the sub-basin's sedimentary thickness and oceanic crust thickness exist obvious difference, on both sides of the ZLFZ, we speculate that the ZLFZ play an important role on geological structure of sub-basin. According to the chang of crustal structure, We speculate that the ZLFZ is at least a crustal fracture zone.

Key words: South China Sea Basin; Zhongnan-Liyue Fault Zone; Spatial distribution; Tectonic deformation

Foundation item: National Natural Science Foundation of China (41606080, 41576068); The China Geological Survey Program (GZH201400202, 1212011220117, DD20160138, 1212011220116).