Geophysical Research Abstracts
Vol. 17, EGU2015-7998, 2015
EGU General Assembly 2015

Geophysics Characteristic on Gas Hydrates Zone in Northern South China Sea

Zhibin Sha
Guangzhou Marine Geology Survey, MLR, Guangzhou, China (shazb2008@163.com)

Gas hydrates are very important because of their vast resources potential, their roles as submarine geohazard, and their effects on global climate in the word. In China, the research of gas hydrates was initiated further later [U+FF0C]but the South China Sea has found a number of geophysical anomalies of gas hydrate by researching of almost 10 years. In order to determine the nature and distribution of marine gas hydrate, a series of geophysical techniques are used. By using the traditional seismic data processing, purpose seismic data processing, wave impedance inversion techniques and geophysical well logging data processing based on Self-organizing feature map neural network, a great deal of useful information are abstracted to determine the gas hydrate zone beneath the seabed. The results show (1) Conventional multi-channel seismic reflection processing data from the SCS reveal various seismic indicators of gas hydrate and associated gas, such as the BSR, enhanced reflections below the BSR, Weak reflection or blanking zone above the BSRs.;(2) special processing techniques, such as attribute extraction and wave impedance inversion, is necessary so as to mine more effective data, they could compensate the shortage of conventional seismic data processing techniques used for distinguishing gas-bearing reservoirs;(3) as a kind of intelligent information processing technology, SOFM neural network is feasible for lithologic identification by logging data and has a high rate of identification of gas hydrate. In the end, the author hopes it may provide some useful clues to the exploration of gas hydrate.