GEOTHERMICS OUT OF SOUTH AMERICA- CASE HISTORY FROM CHINA

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Geothermics is of significant importance in Earth Sciences. Although geothermics sometimes bears regional and even local characteristics, the main principle and methodology of geothermics have common feature. In this context, case from China may have some use and/or help in geothermics of South America. Systematical geothermal studies in China started in Early 1970's and gained big achievements during the past nearly 30 years. To data, altogether 862 heat flow measurements have been attempted and a new version of heat flow map of continental China was compiled. Results indicate that heat flow pattern in China is characterized by high in East and South and low in the West and North. This is mainly due to the strong influence of Pacific Plate from the East and the pushing process of the India-Australian Plate from the south since Meso-Cenozoic era. Furthermore, Studies on thermal structure of lithosphere in China exhibit that North China Basin is characterized by hot mantle but cold crust and Southern Tibet, Hot crust but cold mantle. This is because that since Mesozoic era, North China Basin has strongly affected by Pacific Plate and the upper mantle was perturbed seriously and, hence, became 'hot. On the contrary, in southern Tibet, Due to the strong crustal deformation, thrusting, shearing and friction during collision of Euro-Asia and India-Australian Plate, hot crust but cold mantle occurred. In addition to the theoretical geothermics, application-oriented geothermics such as geothermal resources and energy, geothermal studies in oil-gas fields and mining areas, geothermics and global climate change etc. Are also conducted in China.