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论文

南华北盆地群地温场研究

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摘要　本文根据在南华北地区收集到的13口井的系统测温资料，结合该地区已公开发表的地热资料，对南华北盆地群的地温梯度分布特征进行了研究；同时依据前人的热导率资料，对南华北盆地群的大地热流分布特征进行了研究.分析结果表明，南华北盆地群现今地温梯度变化范围一般为13.0～39.9℃/km之间,平均25.3℃/km.大地热流值在30～89.6 mW/m　2之间,平均热流值为53.7mW/m　2.和中国东、西部盆地现今地温相比，整体表现为一温盆.总体而言，坳陷区热流及地温梯度较小，而隆起区相对较高，横向差异明显.地温场平面展布主体为NW—NWW向，与盆地构造格局一致.地温梯度与大地热流的分布受构造格局的控制，新生代构造—热事件决定了盆地群的现今地温场特征.

关键词　南华北盆地群　地温梯度　大地热流

分类号

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Geothermal field in the south huabei basins

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Abstract Based on the geotemperature data of 13 systematic temperature logging wells in the South Huabei Basins, in combination with geothermal information that has been published in this area, we here present the geo-temperature gradients distribution characteristics of this region. Furthermore, integrated with thermal conductivity information, the distribution characteristics of heat flow in this region are also analyzed. The results show that the geotemperature gradients present day of the South Huabei Basins vary from 13.0℃/km to 39.9℃/km, with an average value of 25.3℃/km. The heat flow values of the South Huabei Basins are between 30 mW/m　2 and 89.6mW/m　2 , with an average value of 53.7mW/m　2 . The South Huabei Basins can be described as a “ mild ” basin in a whole, compared with the geothermal fields of the basins in eastern and western China. Generally, the distribution of heat flow values and geotemperature gradients vary laterally much, with lower ones in depression areas and higher ones in uplifts areas. The direction of geothermal field distribution is NW—NWW, consistent with the tectonic framework. The distribution of geotemperature gradients and heat flow are mainly governed by its tectonic framework. The tectono-thermal events occurred in Cenozoic are the controlling factors for the distribution characteristics of geothermal field.

Key words the south huabei basins; geotemperature gradient; heat flow

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