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郟庐断裂东侧肥东地块变质属性及年代学研究

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摘要:

肥东地块是郟庐断裂带中段的一个极为重要的变质地块,其变质属性和构造归属的精确标定对探究郟庐断裂的形成与演化极为关键。然而,直至目前对于该地块的区域性的变质岩石学研究极为匮乏,制约了人们对于该断裂的深入理解。为此,本研究对肥东地块进行了较为系统的野外地质调查、区域变质岩石学、岩相学、热力学和年代学的分析。研究显示,肥东地块自西向东主要由单元-I、II和III构成,主要岩石类型为花岗岩片麻岩、黑云斜长片麻岩、角闪斜长片麻岩,其间含少量的石榴黑云斜长片麻岩和斜长角闪岩。 $P-T$ 条件评价显示,肥东地块的变质高峰期温压条件为 $610\sim 690^{\circ}\text{C}$ 、 $0.61\sim 0.81\text{GPa}$ ,平均 $P-T$ 条件分别 $656\pm 25^{\circ}\text{C}$ 、 $0.71\pm 0.06\text{GPa}$ ,变质峰期属于角闪岩相。锆石U-Pb定年则显示肥东地块的原岩形成年龄为 $809.2\pm 6.7\text{Ma}$ ,表明该地块属于扬子板块。结合前人构造地质学的研究及相关年龄数据,推测肥东地块与宿松变质杂岩应为相当层,它们目前的 $P-T$ 差异可能是由于郟庐断裂的同俯冲平移错断所致。

英文摘要:

The accurate determination of metamorphic characteristics and tectonic attribution of the Feidong terrane (FDT), which is an important metamorphic terrane within the Tan-Lu Fault (TLF), is key to probe into the formation and evolution of the TLF, but hereto the regional metamorphic study on the FDT still is exiguous. This directly restricts the understanding of the origin of the TLF. In this study, the systematic fieldtrip survey, regional metamorphic study, the petrological analysis, and the thermodynamic appraisal have been carried out across the FDT. The result indicate that the FDT is composed of Unit-I, II and III from west to east, and include granitic gneiss, biotite-plagioclase gneiss, amphibole-plagioclase gneiss, some amphibolite and garnet-biotite-plagioclase gneiss. The  $P-T$  estimates show that the peak metamorphic conditions for the FDT are in the range of  $610\sim 690^{\circ}\text{C}$  and  $0.61\sim 0.81\text{GPa}$ , and average  $P-T$  conditions are  $656\pm 25^{\circ}\text{C}$  and  $0.71\pm 0.06\text{GPa}$ , which plot in the amphibolite facies. The U-Pb age of zircons from the amphibolites is  $809.2\pm 6.7\text{Ma}$  and suggests that the FDT have origin of the Yangtze Plate. Combined with the structural analysis and geochronological data from the previous studies, the FDT should be equal to the Susong complex rocks, the present  $P-T$  discrepancy between them is due that the TLF with sinistral slip offsets this corresponding stratum the during subduction.

关键词: [肥东地块](#) [郟庐断裂](#) [P-T条件](#) [锆石U-Pb定年](#)

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