

上海奉城—浙江湖州长周期MT剖面揭示的深部电性结构

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摘要 利用GMS-06电磁观测系统对上海奉城—浙江湖州剖面进行了大地电磁数据采集, 获得了超过4000 s的高质量长周期观测数据, 为沪浙地区深部电性结构研究提供了有利条件. 通过反演处理, 综合倾子解释结果和重磁资料以及最新的地震解释结果, 在电性和断裂结构上获得了新的认识, 对湖州—苏州、乌镇—马金、枫泾—川沙以及太仓—奉贤这几条深大断裂带的展布以及对区域构造格架的控制作用进行了新的评价, 其中枫泾—川沙断裂是上海断隆和湖州—南通台拱之间推覆构造过渡带的控制断裂, 太仓—奉贤断裂带的主体位置推断在亭林附近. 同时, 对高阻基底以上电性层进行了解释, 揭示了岩石圈底界面的结构和构造形态, 推断湖州—苏州断裂西侧存在壳内高导层.

关键词 [大地电磁测深](#), [深部电性结构](#), [深部断裂](#), [壳内高导层](#), [倾子](#), [岩石圈](#), [沪浙地区](#)

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Using long period magnetotelluric profile of Fengcheng of Shanghai—Huzhou of Zhejiang province to study deep electrical structure

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Abstract A magnetotelluric sounding (MT) profile from Fengcheng of Shanghai to Huzhou of Zhejiang province was conducted using GMS 06 surveying system, high quality long period data over 4000 s were obtained. By inversion and processing, these MT data provide basis for the studies of deep electrical and fault structures. Integrating with tipper interpretation result, gravity & magnetic data and updated seismic interpretation, new recognitions about the conductivity and fault structures are obtained. The styles of several large and deep faults such as Huzhou-Suzhou, Wuzhen-Majin, Fengjing-Chuansha and Taicang-Fengxian and their roles in controlling the regional tectonics are evaluated. The fault of Fengjing-Chuansha controls the nappe transition structure zone between Shanghai uplift and Huzhou-Nantong arched area. The main distribution position of the fault of Taicang-Fengxian is deduced at the vicinity of Tinglin. Moreover, the electrical strata overlying on the high resistant basement, the crustal high-conductive stratum existing in the west area of Huzhou-Suzhou fault, the bottom interface of lithosphere, are also revealed and interpreted.

Key words [Magnetotelluric sounding \(MT\)](#) [Deep electrical structure](#) [Deep fault](#) [Crustal high-conductive strata](#) [Tipper](#) [Lithosphere](#) [Shanghai & Zhejiang area](#)

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