

## 地面高精度数字重力仪

### High-precision ground digital gravimeter

通过国家 863 计划重大项目支持，北京地质仪器厂及北京奥地探测仪器有限公司成功研制出地面高精度数字重力仪，填补了我国数字重力仪空白。

地面高精度数字重力仪基于石英重力传感器技术设计及制作工艺，温度、倾斜、漂移和固体潮自动补偿改正，重力值测量过程全自动化，实现多点间重力场值段差的相对测量。

The high-precision ground digital gravimeter is developed by Beijing geological instrument factory and Beijing Aodi detection instruments limited company, which has filled the domestic blank and reached the domestic leading level. This project is supported by the National High-Technology Project (863).

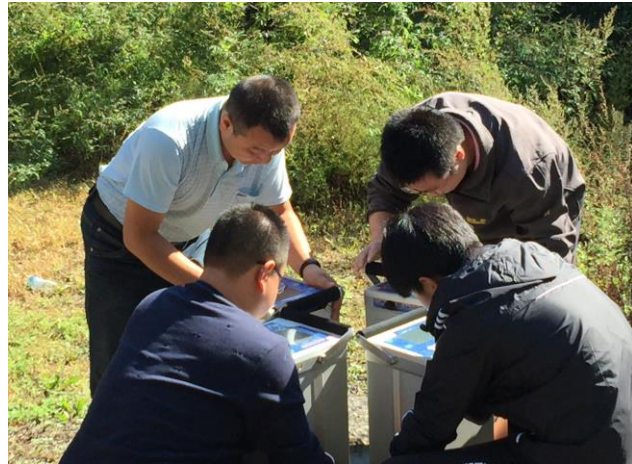
Based on the technology and fabrication of quartz sensor, the gravimeter can be used to accomplish the relatively measurement of gravity difference in multipoint gravity field. The measurement process is completely automated with the corrections of tides, tilts, drift and temperature.

地面高精度数字重力仪总体技术指标与国外同类仪器水平相当，读数分辨率 0.001 毫伽，最小直读范围不小于 7000 毫伽（在测程范围内格值线性度满足规范要求），残余长期漂移 $\leq 0.03$  毫伽/24H，观测误差优于 $\pm 0.02$  毫伽，整机功耗 $\leq 10$  瓦（环境温度 25℃时），重量 $\leq 10\text{Kg}$ ，工作温度范围 $-20\sim 45^\circ\text{C}$ 。广泛应用于地质科学研究，矿产资源勘探，土木工程勘查，地质灾害调查，国防建设等领域。

The general specifications of high precision ground digital gravimeter are equal to the similar products at abroad, such as the following. Reading resolution: 0.001 mGal. Operation range: world-wide( $\geq 7000$  mGal without resetting). Residual long-term drift:  $\leq 0.03\text{mGal/day}$ . Standard deviation:  $\leq 0.02\text{mGal}$ . Power consumption:  $\leq 10\text{W}$ (at ambient temperature of  $25^\circ\text{C}$ ). Operation temperature:  $-20^\circ\text{C} \sim 45^\circ\text{C}$ . Weight:  $\leq 10\text{Kg}$ . The instruments are widely used in geological science, mineral resources exploration, civil engineering survey, geological hazard survey and so on.



高精度数字重力仪图 1



高精度数字重力仪图 2