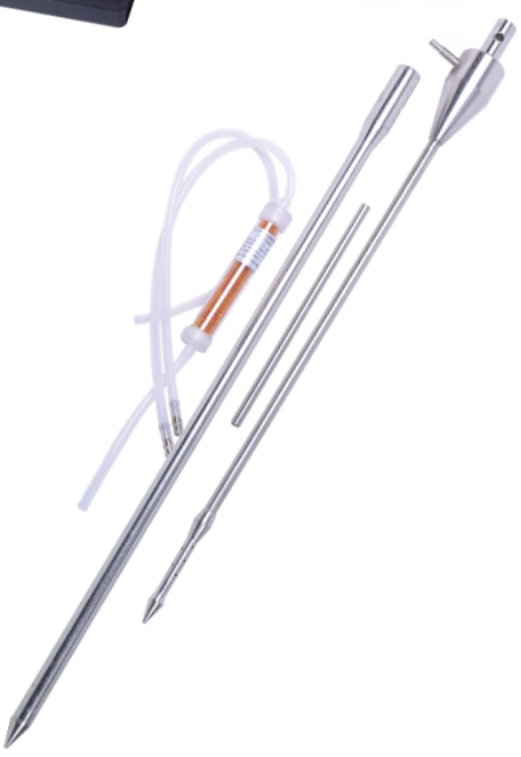
FD218

α 能谱氡测量仪
α Spectrum Radon Gas Monitor



应用领域

环境空气、土壤、水等氡浓度及土壤、建材等氡析出率的测量，可用于地质找矿、辐射防护、核事故监测、辐射剂量评价、地震预报及教学等。

符合的标准/规程

- GB 50325-2020《民用建筑工程室内环境污染控制标准》
- HJ 1212-2021 《环境空气中氡的测量方法》
- T/CECS 569-2019《建筑室内空气中氡检测方法标准》
- EJ/T 605-2018《铀矿勘查氡及其子体测量规范》

Application Fields

Measure radon concentration in ambient air, soil and water and radon exhalation rate in soil and building materials. It can be applied in geological prospecting, radiation protection, nuclear accident monitoring, radiation dose assessment, earthquake prediction and teaching, etc.

The instrument meets the measuring principle and requirements of GB 50325-2020 *Standard for indoor environmental pollution control of civil building engineering*, HJ 1212-2021 *Measurement methods for determination of radon in environmental air*, T/CECS 569-2019 *Standard for measurement method of indoor air radon*, and EJ/T 605-2018 *Specification for radon and its progeny survey in uranium exploration*.

核工业北京地质研究院仪器开发研究所
北京核地科技发展有限公司

总　机：010-86467260　网　址：www.bjhdkj.com
业务部：010-64953684　64980736　18911586039
售　后：010-64986980　传　真：010-64944429

FD218

α 能谱氡测量仪
α Spectrum Radon Gas Monitor

仪器特点

- 探测器：钝化离子注入平面硅(PIPS)，超薄接触极，坚固，可擦拭，低噪声
- 泵吸静电收集能谱分析法
- α 能谱分辨率好、灵敏度高，谱图实时显示
- 测量响应快，恢复时间短
- 恒流采样，气量采样精确
- 体积小，重量轻，便于携带
- 功耗低，交、直流两用
- USB数据传输接口，测量数据蓝牙打印

技术指标

1. 测量对象：Rn-222(氡)、Rn-220(钍)
2. 灵敏度：≥ 0.017 cpm/[Bq·m^{-3}] (0.63 cpm/[pCi/L])
3. 本底计数：≤ 0.03 cpm
4. 探测下限：≤ 2 Bq/m^3
5. 测量范围
   - 环境空气氡：(2 ~ 999999) Bq/m^3
   - 土　壤　氡：(300 ~ 999999) Bq/m^3
   - 水　中　氡：(0.002 ~ 999.999) Bq/L
   - 氡析出率：(0.001 ~ 33.000) Bq/[m^2·s]
6. 测量不确定度：≤ 20% (K=2)
   (氡室浓度 ≥2000 Bq/m^3，温度25°C时：≤ 10%)
7. 稳定性：相对误差 ≤ 10% (8h)
8. 操作模式：单点、连续和扫描测量
9. 数据存储：10000组测量结果及谱线数据
10. 取气方式：主动泵吸式
11. 电源：锂离子充电电池/交流电，电池供电可连续工作72h
12. 显示器：LCD液晶显示
13. 工作环境
    - 温　　度：(-10 ~ +50)°C
    - 相对湿度：≤ 90% (+40°C)
14. 外形尺寸和重量
    - 主机：(276×246×283) mm　3.8 kg

仪器认证

中国计量科学研究院检定并出具检定证书

Instrument Characteristics

- Detector: PIPS detector. Detector features include contact electrode thin, firm,wipeable and low noise.
- Energy spectrum analysis of electrostatic collection of pumping gas.
- High α energy spectrum resolution, high sensitivity and real-time display of spectrum data.
- Fast measuring response and short recovery time.
- Constant flow sampling.
- Small size, light weight, suitable to carry.
- Low power consumption, AC/DC double use.
- With USB data transfer interface, equipped with a Bluetooth printer.

Specifications

1. Measuring Objects: Rn-222(Radon), Rn-220(Thoron)
2. Sensitivity: ≥ 0.017 cpm/[Bq·m^{-3}] (0.63 cpm/[pCi/L])
3. Background count rate: ≤ 0.03 cpm
4. Detection Limit: ≤ 2 Bq/m^3
5. Measuring Range
   - Radon in air: (2 – 999999) Bq/m^3
   - Radon in soil: (300 – 999999) Bq/m^3
   - Radon in water: (0.002 – 999.999) Bq/L
   - Radon exhalation rate: (0.001 – 33.000) Bq/[m^2·s]
6. Measurement uncertainty: ≤ 20% (K=2)
   (Radon chamber concentration ≥ 2000 Bq/m^3, Temperature is 25°C: ≤ 10%)
7. Stability: RE ≤ 10% (8h)
8. Operating Mode: Single point, continuous and scan measuring
9. Data Storage: 10000 sets of measured results and energy spectrum data
10. Way to Take Gas: Active pump-priming
11. Power Supply: Lithium-ion rechargeable battery/AC, DC power can support the instrument to work continuously for 72h.
12. Monitor: LCD display
13. Operating Environment
    - Temperature: (-10 – +50)°C
    - Relative Humidity: ≤ 90% (+40°C)
14. Dimensions and Weight:
    - Host: (276×246×283) mm　3.8 kg

Instrument Certification

Verified and certified by National Institute of Metrology P.R.China (NIM).

核工业北京地质研究院仪器开发研究所
北京核地科技发展有限公司

总　机：010-86467260　网　址：www.bjhdkj.com
业务部：010-64953684　64980736　18911586039
售　后：010-64986980　传　真：010-64944429