

技术及应用

西安加速器质谱仪的运行和工作状况

武振坤^{1,2}, 卢雪峰^{1,2,3}, 赵晓雷^{1,2,3}, 赵稳年^{2,3}, 刘起^{1,2}, 于学锋^{1,2}, 黄海^{2,3}, 李琳琅^{2,3}, 杜花^{1,2}, 周卫健^{1,2,3}

1.中国科学院 地球环境研究所 黄土与第四纪地质国家重点实验室, 陕西 西安 710075

2.西安加速器质谱中心, 陕西 710054 3. 西安交通大学, 陕西 710049

收稿日期 2008-7-3 修回日期 2008-7-20 网络版发布日期: 2008-9-20

摘要 西安加速器质谱仪 (Xi'an-AMS) 于2006年8月正式投入运行。在近两年的分析测试中, 仪器运行正常, 成功测试了¹⁴C、¹⁰Be、²⁶Al和¹²⁹I等共2 741个待测样品, 对外测试服务占总测样品数比例达50%。为进一步优化仪器的测试性能, 提高测样效率, 西安加速器质谱中心与荷兰高压静电公司 (HVEE) 合作, 对原有离子源部分进行升级改造, 并对计算机控制部分做了优化。改造后的离子源头可以长时间稳定运行, 且在¹⁴C测量中未发现记忆效应。

关键词 [加速器质谱仪](#); [离子源](#); [控制系统](#)

分类号 [TL817.4](#)

Status of Xi'an Accelerator Mass Spectrometry

WU Zhen-kun^{1,2}, LU Xue-feng^{1,2,3}, ZHAO Xi-ao-lei^{1,2,3}, ZHAO Wen-nian^{2,3}, LIU Qi^{1,2}, YU Xue-feng^{1,2}, HUANG Chun-hai^{2,3}, LI Lin-lang^{2,3}, DU Hua^{1,2}, ZHOU Wei-jian^{1,2,3}

1.State Key Lab of Loess and Quaternary Geology, Institute of Earth Environment,

Chinese Academy of Sciences, Xi'an 710075, China;

2.Xi'an AMS Center, Xi'an 710054, China; 3.Xi'an Jiaotong University, Xi'an 710049, China

Abstract Xi'an Accelerator Mass Spectrometry (Xi'an-AMS) has been put into routine operation since August, 2006. The main instrument—3 MV accelerator mass spectrometer, has performed steadily and reliably. More than 2 741 samples were analyzed, which included ¹⁴C, ¹⁰Be, ²⁶Al and ¹²⁹I. About 50% of the samples were submitted by the outside users. In addition, to further improve the performance and efficiency of the system, an insertable head of the ion source was redesigned and the control system was upgraded considerably, based on collaboration with High Voltage Engineer of Europe (HVEE). The measurement results show that the new source head runs more steadily and there is little memory effect on ¹⁴C measurement.

Key words [accelerator](#) [mass spectrometry](#) [ion source](#) [control system](#)

DOI

通讯作者

扩展功能

本文信息

▶ [Supporting info](#)

▶ [\[PDF全文\]\(396KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“加速器质谱仪; 离子源; 控制系统”的 相关文章](#)

▶ [本文作者相关文章](#)

· [武振坤](#)

· [卢雪峰](#)

· [赵晓雷](#)

· [赵稳年](#)