

技术及应用

# Bragg探测器在AMS测量中的应用

李朝历<sup>1</sup>; 王伟<sup>1</sup>; 王祥高<sup>1</sup>; 何明<sup>1</sup>; 武绍勇<sup>1</sup>; 董克君<sup>1</sup>; 姜山<sup>1</sup>; 管永精<sup>2</sup>; 阮向东<sup>2</sup>

1.中国原子能科学研究院 核物理研究所, 北京102413 2.广西大学 物理科学与技术学院, 广西 南宁530004

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**摘要** 为提高Bragg探测器的总能量和Bragg峰的分辨等性能, 对1台Bragg探测器进行改进, 并利用其测量<sup>36</sup>Cl、<sup>41</sup>Ca、<sup>79</sup>Se系列标准样品, 有效排除了相应同量异位素的干扰, 为进一步提高AMS 测量这些中重核的灵敏度提供有效试验手段。

**关键词** [Bragg探测器](#) [加速器质谱计](#) [同量异位素](#) [粒子鉴别](#)

分类号

## Applications of Bragg Detector for AMS

LI Chao-li<sup>1</sup>; WANG Wei<sup>1</sup>; WANG Xi ang-gao<sup>1</sup>; HE Mi ng<sup>1</sup>; WU Shao-yong<sup>1</sup>; DONG Ke-j u n<sup>1</sup>; JIANG Shan<sup>1</sup>; GUAN Yong-j i ng<sup>2</sup>; RUAN Xi ang-dong<sup>2</sup>

1. China Institute of Atomic Energy, P. O. Box 275-50, Beijing 10241 3, China; 2. College of Physics Science and Technology, Guangxi Uni versi ty, Nanning 530004, Chi na

**Abstract** A Bragg detector was modified systemically for higher sensitivity of accelerator mass spectroscopy (AMS) measurements for medium mass nuclides. The performance of the modified Bragg detector was improved. A series of <sup>36</sup>Cl, <sup>41</sup>Ca and <sup>79</sup>Se standard samples were measured. The results show that this Bragg detector can be successfully used for identification of <sup>36</sup>Cl-<sup>36</sup>S and <sup>41</sup>Ca-<sup>41</sup>K. This Bragg detector has a higher charge identification capability than  $\Delta E$ - $E$  detectors. The nuclear charge identification power was tested and the results show that the Bragg detector can directly determine the value of nuclear charge number within uncertainty of 1.2%.

**Key words** [Bragg detector](#) [accelerator](#) [mass spectroscopy](#) [isobar](#) [particle](#) [identification](#)

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