

技术及应用

## 碳剥离膜在HIRFL-CSR的应用和电荷态分布的测量

张宏斌, 肖国青, 原有进, 徐珊珊, 卢子伟, 李占奎

(中国科学院 近代物理研究所, 甘肃 兰州730000)

收稿日期 2007-10-20 修回日期 2007-11-30 网络版发布日期: 2008-10-20

**摘要** 兰州重离子加速器冷却储存环主环的离子注入方式包括剥离注入和多圈多次注入。在剥离注入中, 带电离子通过碳膜后的电荷态分布对注入效率有较大影响。本工作对离子通过碳膜后的电荷态分布进行了测量, 并阐述了兰州重离子加速器冷却储存环上剥离器的应用, 给出了离子通过碳膜后电荷态分布的测量结果。

**关键词** [兰州重离子加速器冷却储存环](#); [剥离器](#); [电荷态分布](#); [剥离注入](#)

**分类号** [O571.1](#); [TB43](#)

## Application of Carbon Stripping Foil to HIRFL-CSR and Measurement of Charge State Distribution

ZHANG Hong-bin, XIAO Guo-qing, YUAN You-jin, XU Hu-shan, LU Zi-wei, LI Zhan-kui

Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou 730000, China

**Abstract** Charged ions may be injected into the CSRm by means of the charge stripping injection or the multiple multi-turn injection. The charge state distribution of the ions passing through the carbon foil has great influence on the performance of the accelerator and thus plays a key role in the charge stripping injection. It's found that the charge state distribution is dependent on the thicknesses of the carbon foil and the energy of the ions. In present work, the carbon stripper was applied to HIRFL-CSR and the best optional charge state distribution was measured.

**Key words** [HIRFL-CSR](#); [stripper section](#); [charge state distribution](#); [charge stripping injection](#)

DOI

通讯作者

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [\[PDF全文\]\(520KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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“兰州重离子加速器冷却储存环; 剥离器; 电荷态分布; 剥离注入”的相关文章](#)
- ▶ [本文作者相关文章](#)

- [张宏斌](#)
- [肖国青](#)
- [原有进](#)
- [徐珊珊](#)
- [卢子伟](#)
- [李占奎](#)