

技术及应用

## 基于EAST装置上液态调配器系统的研究

王磊, 赵燕平

中国科学院 等离子体物理研究所, 安徽 合肥 230031

收稿日期 2007-4-10 修回日期 2007-6-19 网络版发布日期: 2008-8-20

**摘要** 液态调配器是用于离子回旋共振加热系统以代替传统活塞式调配器的一种新型阻抗匹配装置。通过对液态调配器工作原理的研究, 设计了液态调配器的油路系统, 采用计算机和可编程控制器对系统进行控制。同时, 对液态调配器各支节匹配高度的计算方法进行了研究, 提出了计算公式, 并利用实验中测得的数据对计算公式进行了验证。经过两轮EAST实验使用证实, 该系统完全满足设计要求。

**关键词** [液态调配器](#); [可编程控制器](#); [阻抗匹配](#)

**分类号** [TM924.75](#)

## Research on Liquid Stub Tuner System of EAST

WANG Lei, ZHAO Yan-ping

Institute of Plasma Physics, Chinese Academy of Sciences, Hefei 230031, China

**Abstract** The liquid stub tuner is a new style impedance matching system used on the ion cyclotron resonance heating system in order to supersede the conventional piston stub tuner. Based on the research of the working theory of the liquid stub tuner, the oil loop system of the liquid stub tuner was designed, and computer and programmable logic controller were adopted to control the system. The method of calculating the height of each branch of the liquid stub tuner was studied, and calculating formulas were put forward and confirmed by the data of the experiment. The system has been employed for the EAST experiment for two times and is proved that it meets the requirement of the design.

**Key words** [liquid stub tuner](#) [programmable logic controller](#) [impedance matching](#)

DOI

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [\[PDF全文\]\(4571KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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“液态调配器; 可编程控制器; 阻抗匹配”的相关文章](#)
- ▶ [本文作者相关文章](#)

- [王磊](#)
- [赵燕平](#)

通讯作者