

## 磁约束聚变用准光回旋管的研究与进展

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**摘要:** 在解决世界能源与环境问题上, 核聚变能具有明显优势, 有望成为未来的理想能源。其中, 磁约束受控核聚变被认为是可控热核聚变最可能的实现方式; 世界各科技强国都在努力探索受控核聚变的可行性方案, 并积极开展了各种可用于受控核聚变的相关装置研究。研究开发不同频段用于磁约束受控核聚变电子回旋谐振加热 (ECRH)、电子回旋电流驱动 (ECD)、热等离子体探测与稳定性控制的高功率、高效率回旋振荡管是国际上回旋器件研究的重要研究方向之一。本文将就国际与国内磁约束聚变用准光回旋管的研究现状与发展趋势以及回旋振荡管研究的关键技术等问题展开讨论。

**关键词:** 磁约束核聚变; 电子回旋脉塞器件; 回旋振荡管; 电子光学; 高频; 准光;

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