

중이온빔을 이용한 ERD 분석 장치 개발

Construction of ERD analysis system using heavy ion beam

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요 약

서울대학교 기초과학교육연구공동기기원의 질량분석 이온빔가속기 (Accelerator Mass Spectrometer : SNU-AMS)의 -100 빔포트에 ERD (Elastic Recoil Detection) 분석을 위한 빔라인과 표적함을 구성하였다. 현재 빔라인의 조립 단계에 있고, 표적함 및 부속 장치가 완비되면 ERD 분석을 위한 예비 실험을 수행할 것이다.

Design of the High Voltage Test Bed for the KSTAR ICH Components

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Abstract

6 MW ICH(Ion Cyclotron Heating) power will be coupled to the plasma through ICH four strap antenna in KSTAR(Korean Superconducting Tokamak Advanced Research) in the frequency range from 25 to 60 MHz. There are two important factors in the design of KSTAR ICH system. One is the breakdown voltage in the transmission system which restricts the maximum transferable rf power to the ICH antenna and another is the heat dissipation arising from the ohmic loss during the long pulse operation. Maximum design values for the voltage and current in ICH system are 35 kV and 1 kA respectively and components are designed for the operation of 300 seconds. The test facility is designed to produce at least 35 kV/ 1 kA by applying low rf power up to 30 kW and high voltage/current test is performed on the vacuum feedthrough and other transmission components.