

# Identification of the magnetic island structure in the HL-2A tokamak\*

Ji Xiao-Quan(季小全)<sup>†</sup>, Yang Qing-Wei(杨青巍), Feng Bei-Bin(冯北滨),  
Xu Yuan(徐媛), Sun Teng-Fei(孙腾飞), and Yuan Bao-Shan(袁保山)

*Southwestern Institute of Physics, Chengdu 610041, China*

(Received 13 December 2010; revised manuscript received 1 March 2011)

The identification of the magnetic island structure in the HL-2A tokamak is presented. First, the perturbation current as a source for the perturbation flux can be determined by using Mirnov probe measurements. By superposing the perturbation flux and the equilibrium flux reconnected by equilibrium fitting, the structure and the width of the magnetic islands can be estimated. The method has been used in the HL-2A experiments.

**Keywords:** magnetic island, magnetohydrodynamic instability, tearing mode

**PACS:** 52.55.Fa, 52.70.Ds, 52.35.Py

**DOI:** 10.1088/1674-1056/20/9/095205