Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Real time Suppression MHD with Active Feedback Modulating LHW&IBW on HT-7 Superconducting Tokamak[1] J.S. MAO, J.R. JUO, H. WANG, Y.W. SUN, B.J. DING, Institute of Plasma Physics, Chinese Academy of Sciences — A active modulation LHW and IBW have used successfully for real-time measure and suppress MHD on the superconducting tokamak HT-7. DAQ2010 advanced data acquisition card was used. We also did the synergy modulation experiment of LHW & IBW. A feedback system was used which activated modulation only when MHD activity reach a predetermined level so as to optimize the current drive through out the discharge. The LHCD modulation was varied in power and frequency, with the frequency always being less than the resistive skin time (100ms). Optimal MHD suppression was achieved when modulating LHW power $>$ 200kW, and frequency of 50Hz. Details of the MHD suppression will be discussed in this poster. The amplitude, interval and the period of LHW and IBW modulation pulse can be adjusted very conveniently. The modulation LHW & IBW can be delivered very fast at the any time during the discharge. The modulation LHW & IBW period was always much shorter than the plasma resistive time. So the profile of plasma current is changed much fast than the plasma resistive time.

[1]This work was Support by National Natural Science Fund of China, Contract No. 10675126.

J.S. Mao
Institute of Plasma Physics, Chinese Academy of Sciences

Date submitted: 17 Jun 2009 Electronic form version 1.4