Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

KTX circuit model and discharge waveform prediction[1] WEI BAI, T. LAN, W.Z. MAO, W. YOU, H. LI, A.D. LIU, J.L. XIE, S.D. WAN, W.D. LIU, KTX Team, University of Science and Technology of China, L. YANG, P. FU, ASIPP, China, C.J. XIAO, U. of S., Canada, W.X. DING, UCLA — The Keda Torus eXperiment (KTX) is a constructing reversed field pinch (RFP) device in University of Science and Technology of China. The KTX power supply system includes the Ohmic heating, field shaping and toroidal power supply systems, which produce the Ohmic field, equilibrium field and toroidal field, respectively. The detailed circuit model will be introduced in this poster. Another purpose is to predict its discharge waveforms using the modified Bessel function mode (MBFM), which describes the evolution of plasma current and magnetic flux in RFP base on Taylor theory. Furthermore, the power supply requirements of external field shaping winding are also predicted in the model, which will be very helpful for the design of plasma equilibrium controlling system.

[1]Supported by ITER-China program (No. 2011GB106000), NNSFC (Nos. 10990210, 10990211, 10335060 and 10905057), CPSF (No. 20080440104), YIF (No. WK2030040019) and KIPCAS (No. kjcx-yw-n28).

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Date submitted: 12 Jul 2013 Electronic form version 1.4