

R&D STATUS OF INDIAN TEST FACILITY FOR ITER DNB CHARACTERIZATION – FIP-P1-40

M.J. Singh et.al.

ITER-India, Institute for Plasma Research, Bhat, Gandhinagar - 382428, India

AIMS

- Establish and characterize ITER sized beam source to produce 100 keV 60 A H- ion beam and the functionality of beam line components like the neutralizer, the electrostatic residual ion dump and calorimeter.
- Determine neutral beam power delivered over a transport length of ~20.7 m to provide neutral beam data base for diagnostician involved with CXRS diagnostic at ITER

PRESENT STATUS WORLDWIDE :

- IPP in the process to establish ITER desired beam parameters for H and D beams in half sized sources
- Experiments to characterize ITER sized ion source with a 3 grid accelerator at SPIDER facility in Padova. Parallel H- beamlets with no focusing or long distance transport

HOW IS INTF DIFFERENT? :

- Beam source (ion source + 3 grid accelerator) and BLC's BTP as per ITER design
- Neutral beam transport studies using angled beam group segments in horizontal and vertical directions for beam focusing to be experimented over transport lengths of 20.7 m
- The experimental outcome will provide the desired operational experience and database for DNB operation at ITER