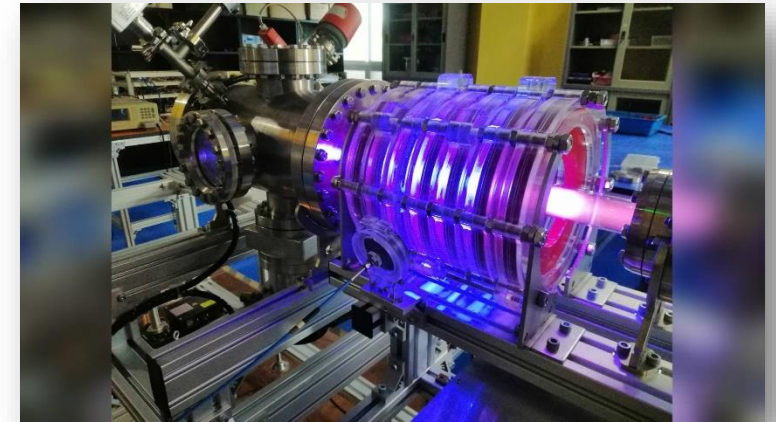


CPaF LINEAR DEVICE FOR PLASMA MATERIALS EXPOSURE EXPERIMENTS



Center for Plasma and Nuclear Fusion Technology

Somsak Dangtip

Thailand Institute of Nuclear Technology

Thailand



The first tokamak in Thailand and ASEAN (Aug, '22)
In collaboration with ASIPP
Reconstruction from HT-6M of ASIPP



First Plasma in July, 2022 at ASIPP, China
Plasma discharge of 80 ms and current of 100 kA
installation at TINT, Thailand by December, 2022
Full commission in Thailand in April, 2023



Financial support from Electricity Generation Authority of Thailand (EGAT)
EGAT is setting up fusion team and team up with TINT and CPaF for TT-x training and operation.

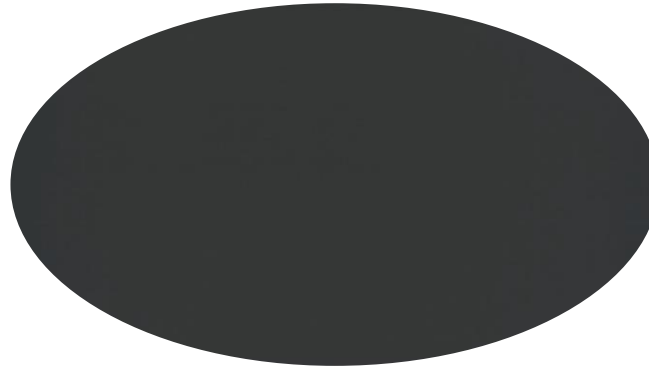


TT-1 is to be installed at TINT, Nakorn Nayok office.
The machine is for research, education and training purpose.

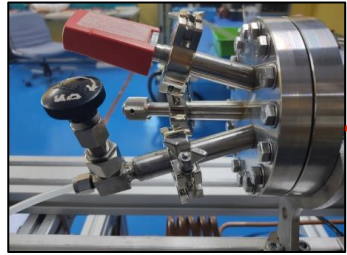


Its smallness and flexibility can accommodate issues of interest but difficult for beam time from larger machines like ITER.

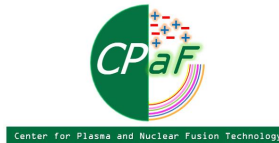
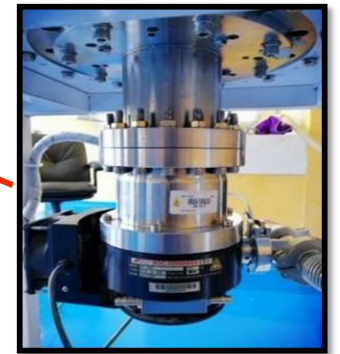
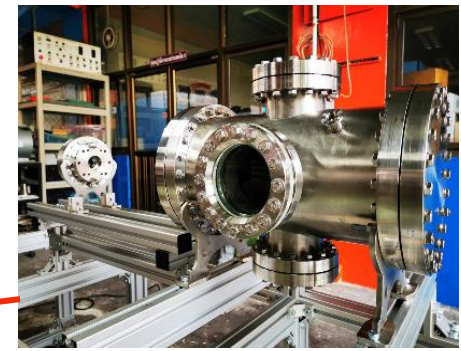
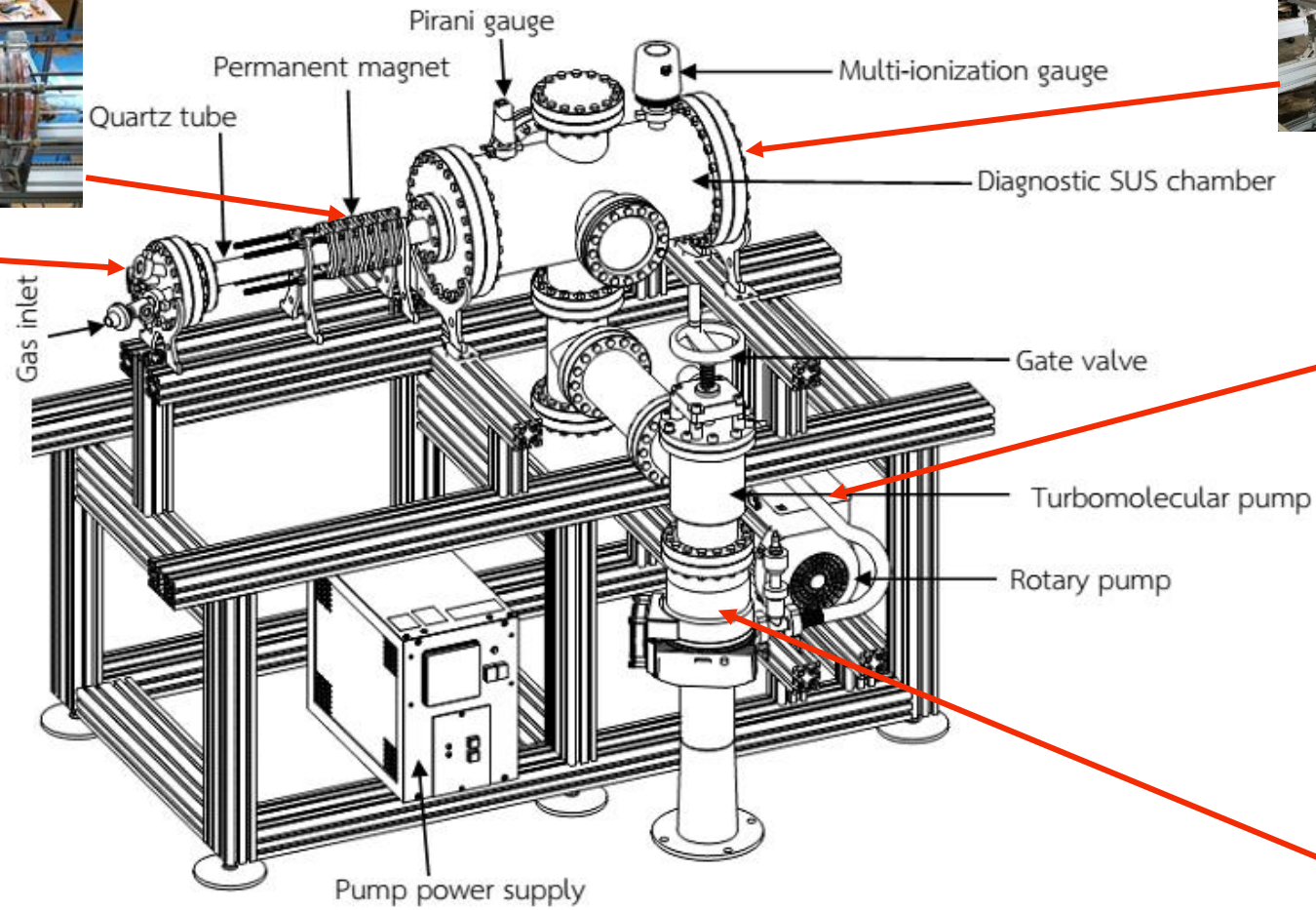
Thailand Tokamak-1



LINEAR DEVICE FOR PLASMA MATERIALS EXPOSURE EXPERIMENTS



Control & Power Supply System



CPAF LINEAR DEVICE FOR PLASMA MATERIALS EXPOSURE EXPERIMENTS

Thailand Institute of Nuclear Technology , Consortium for Plasma and Nuclear Fusion Technology, EGAT

AD 01

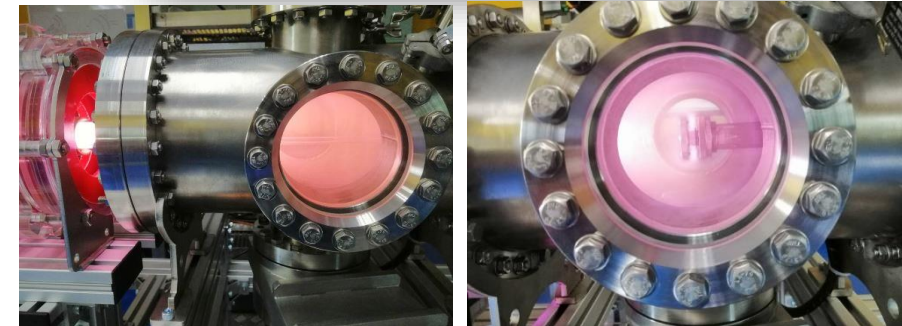
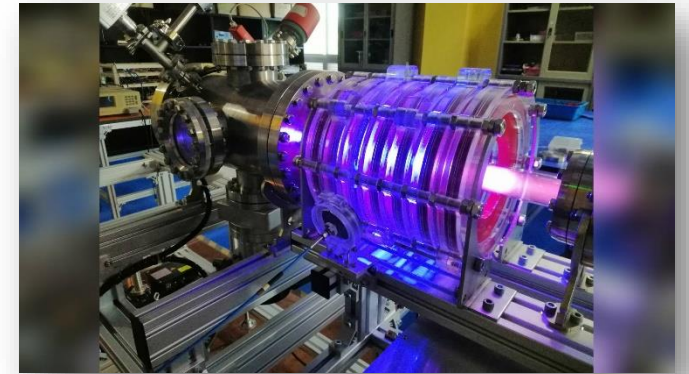
Helicon Discharge, Steady State,
 $B_0=0.1\text{ T}$, $n_e=10^{16}\text{--}10^{19}\text{ m}^{-3}$, $T_e=1\text{--}8\text{ eV}$,
Target bias 10–300 eV, Plasma
diameter at target: 4 cm

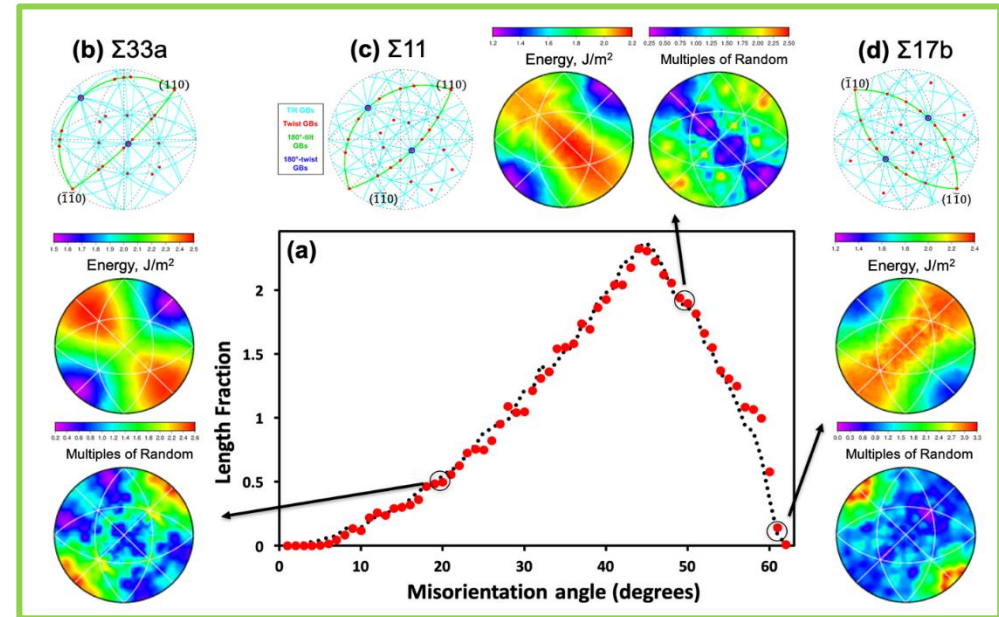
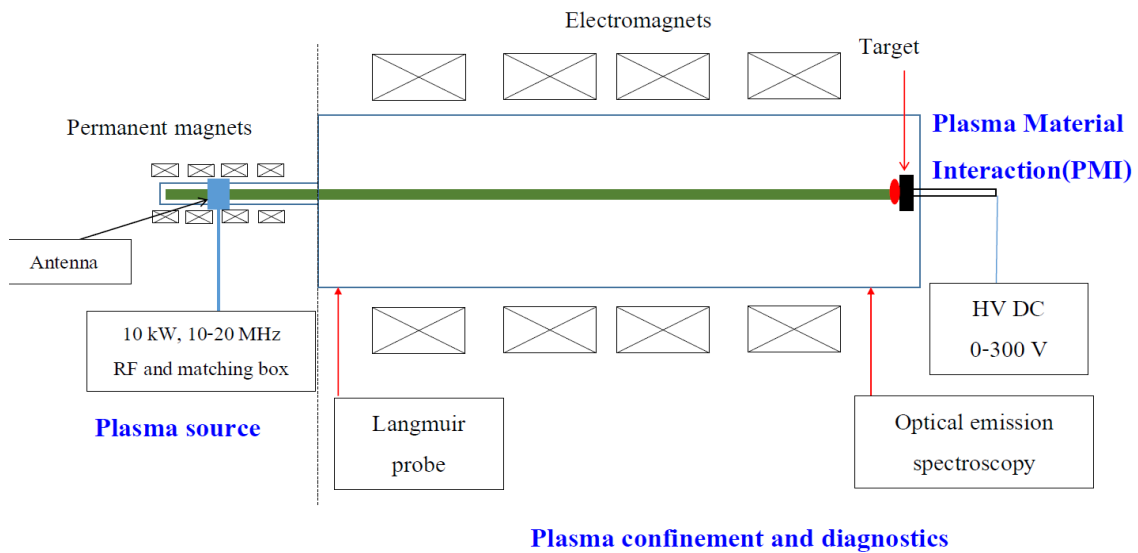
AD 02

Basic Diagnostics: Langmuir probe,
Optical emission spectroscopy

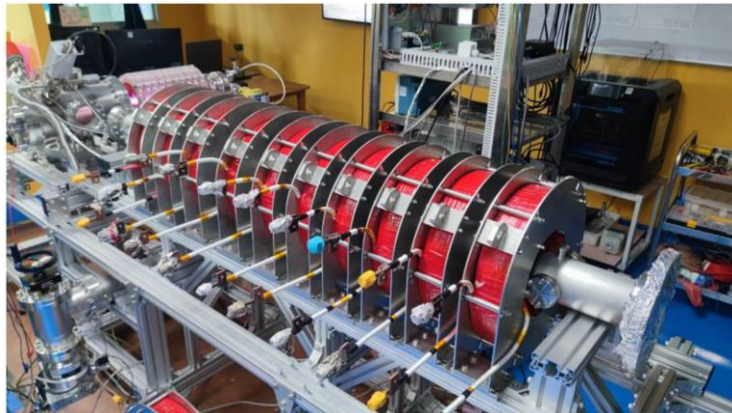
AD 03

Plasma Material Interaction (PMI) studies,
Plasma detachment, Impurity transport
study, Plasma diagnostics

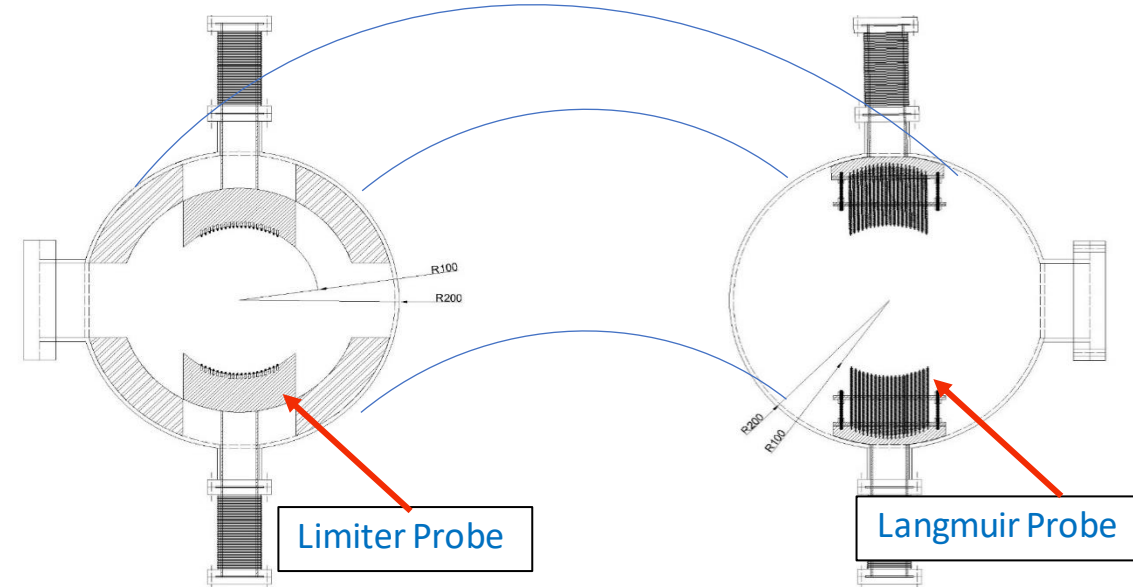




Chirayutthanasak, O., (2022). Anisotropic grain boundary area and energy distributions in tungsten. *Scripta Materialia*, 209, 114384.



LINEAR DEVICE: Ongoing Expansion



THANK YOU



THANK
YOU

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