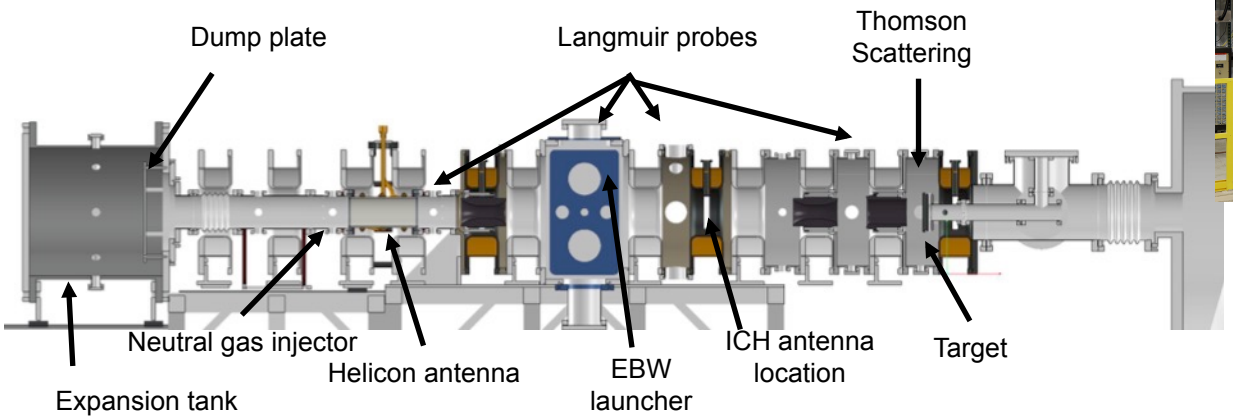
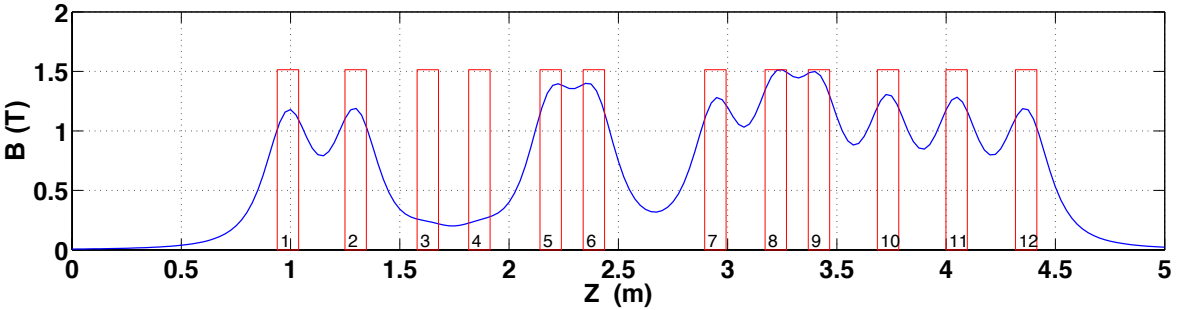
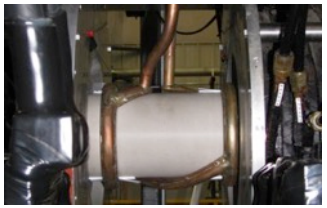
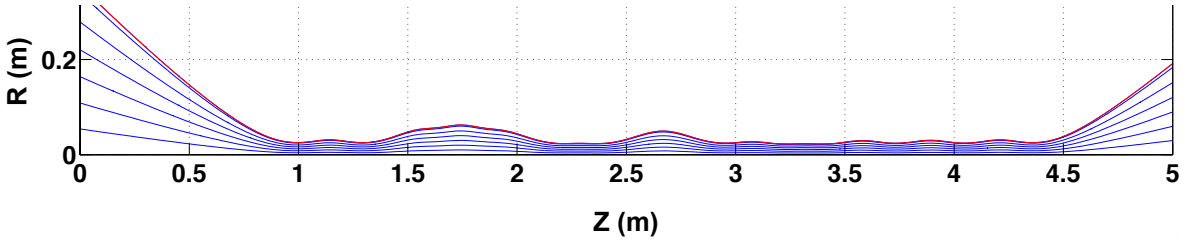
Proto-MPEX



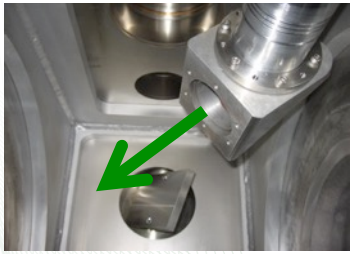




100 kW helicon antenna and aluminum nitride window



28 GHz EBW launcher



Tungsten target (supplied by ASIPP, Hefei)

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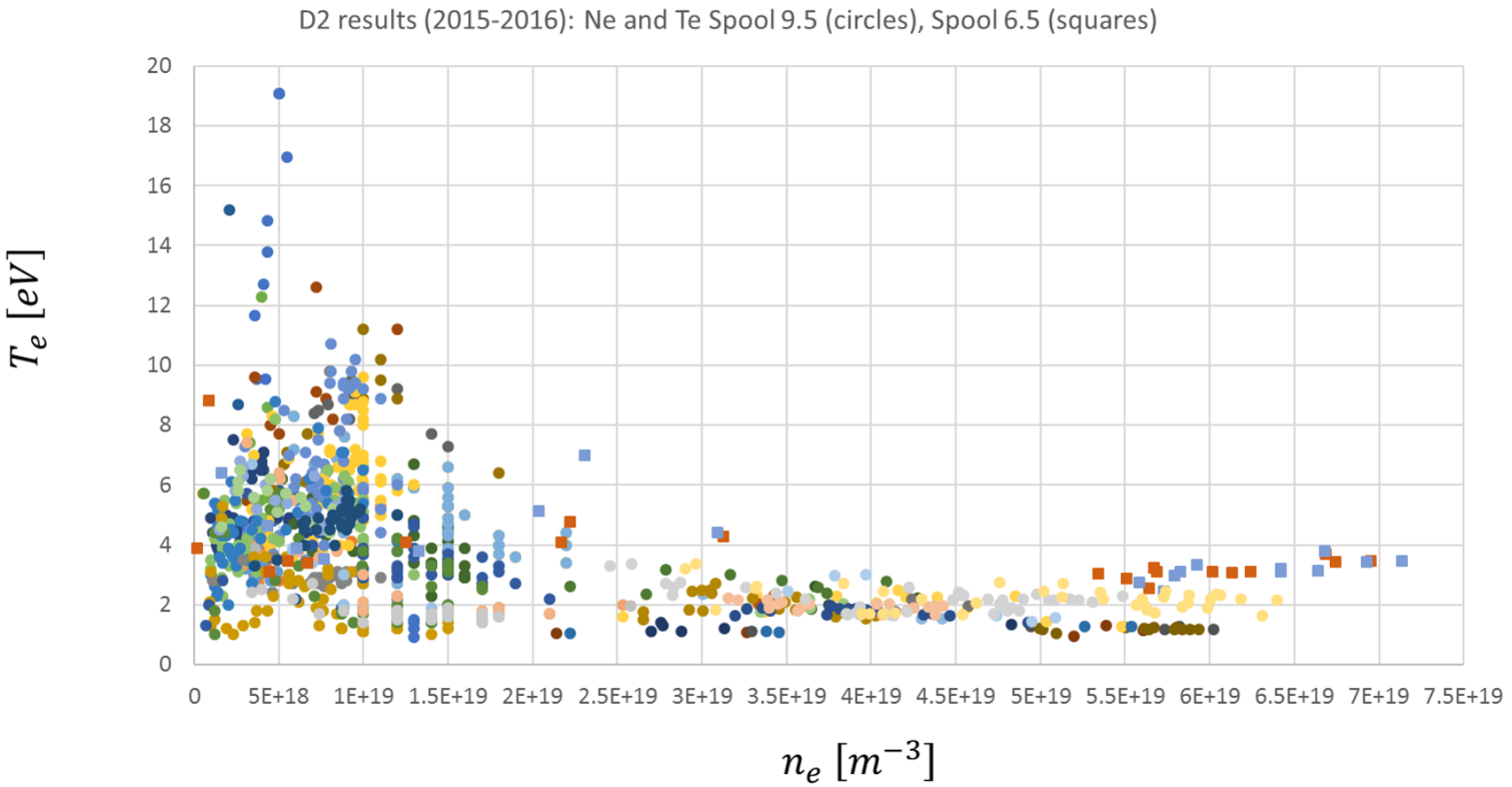
Proto-MPEX operational diagram



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System goals, achieved performance (not simultaneously though) as of now

Parameter	Aimed value	Achieved value	Comments
n_e source	up to 6 x 10^{19} m^{-3}	He: 6 x 10^{19} m^{-3} **D ~ 8 x 10^{19} m^{-3}**	
n_e target	up to 10^{21} m^{-3}	**D ~ 7 x 10^{19} m^{-3}**	0.4 m before target
T_e target	up to 15 eV	20 eV	
T_e target	down to 1 eV	1 eV	At low density
T_i target	up to 20 eV	0	ICRH not operated
T_i target	down to 1 eV	0	ICRH not operated
B target	1 - 2 T	1 T	
Plasma diameter	up to 10 cm	6 cm	Best results with 3 cm
Γ_I target	> 10^{24} $m^{-2}s^{-1}$	~ 9 x 10^{23} m^{-2} s^{-1}	0.4 m before target
Min angle of B to target	5 degree	90 degrees	
P target, parallel	up to 40 MW/m^2	> 10 MW/m^2	In high T_e regime
P target, perpendicular	10 MW/m^2	> 10 MW/m^2	In high T_e regime

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