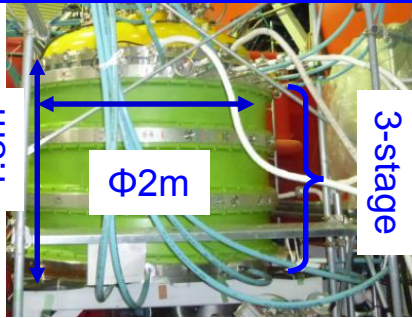


Long-pulse acceleration of 1MeV negative ion beams toward ITER and JT-60SA neutral beam injectors

Common issues to realize **high power & long pulse negative-ion-based NBI** for ITER (1MeV, 40A(200A/m²), 1hour) and JT-60SA (0.5MeV, 22A(130A/m²), 100s)

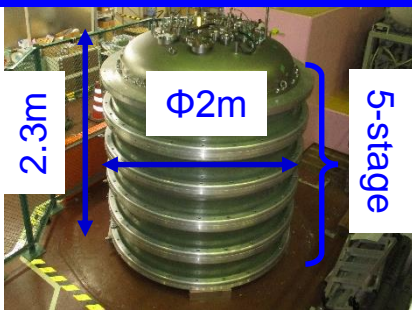
JT-60SA ion source



Stable voltage holding capability in multi-stage accelerator

Prediction method of the voltage holding was successfully established.

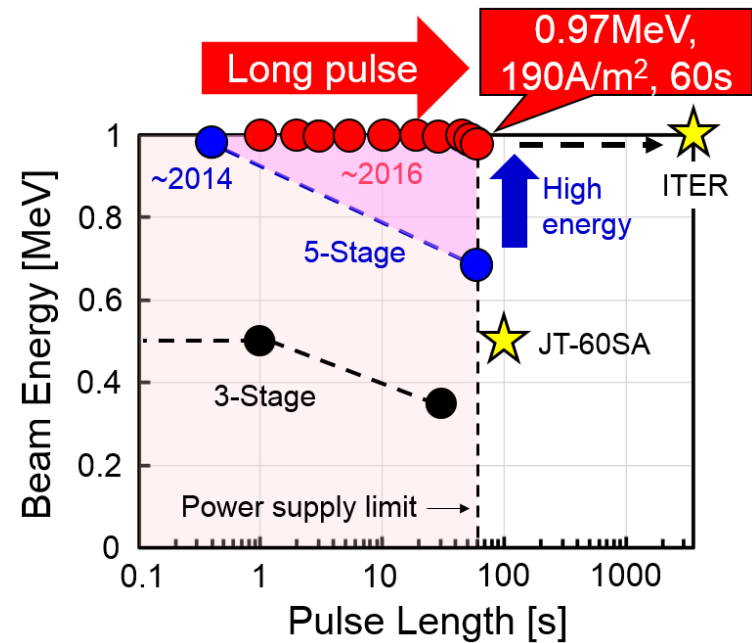
ITER prototype accelerator



Suppression of grid heat load

Optimization of extractor and acceleration gap to improve beam optics

These results contributed to extend the pulse duration of 1 MeV beam in the ITER prototype accelerator.



Pulse duration of the ITER-relevant 1 MeV, high current density beams was successfully extended **from 0.4 s to 60 s** without breakdown.