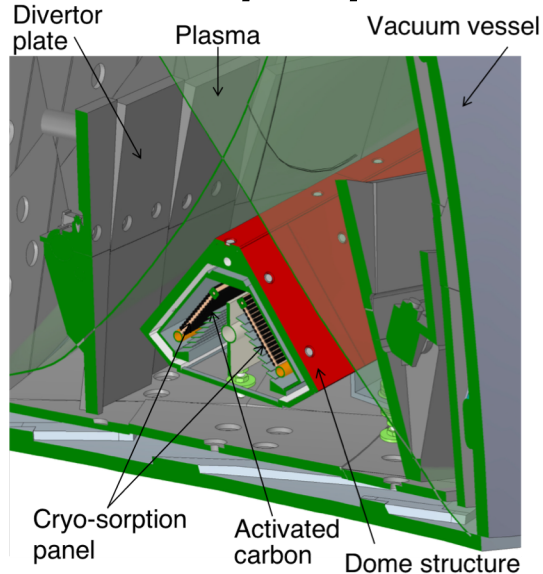




# New approach to the control of particle recycling using divertor pumping in LHD

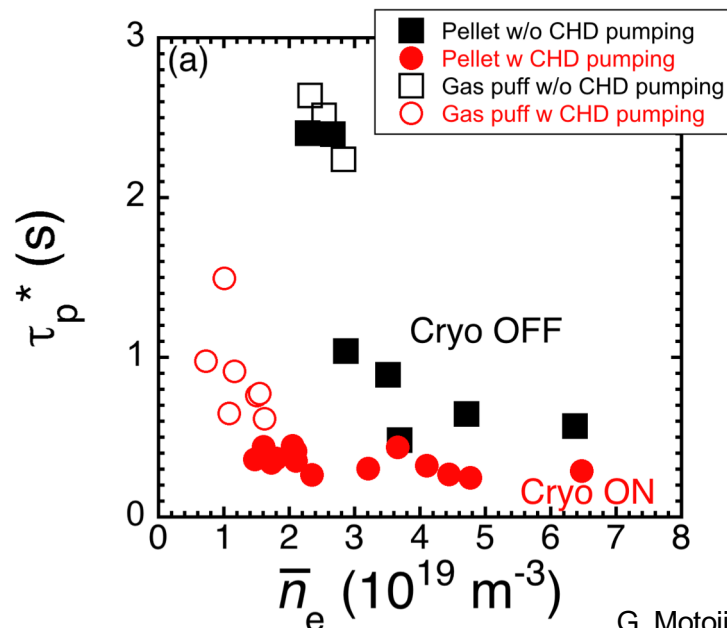
## Improved divertor pump in LHD



High performance of divertor cryo-sorption pump is realized in LHD.

- ✓ **70 m<sup>3</sup>/s close to the initial design target**
- ✓ **58,000 Pa m<sup>3</sup> corresponds to 20 days of fuel amounts for high density experiments.**

## Low recycling state is obtained



By strong divertor pumping, first time observations show that

- ✓ Low recycling state is obtained.  
**Access to lower density region is possible. RF wall conditioning is accelerated**
- ✓ In high density plasmas, not only edge density but also core density are reduced in divertor pumping due to shallower pellet penetration.  
**The short time gas puffing and steady divertor pumping likely will be a candidate for the dynamic control tool of edge density.**