XP 718: Investigate Effect of Li Pellets on H-Mode Performance

- **Purpose**

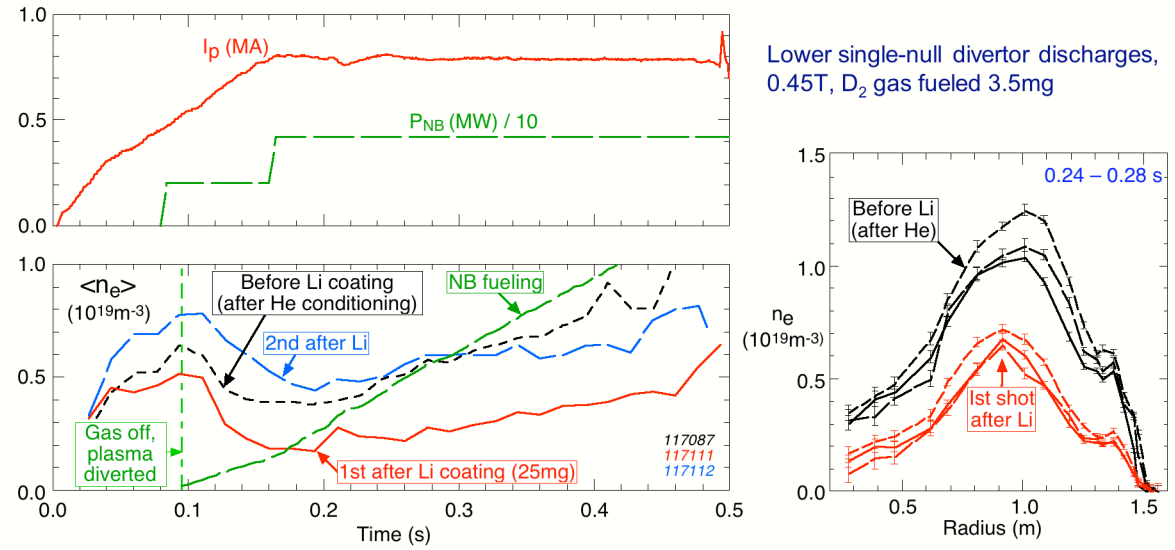
1) How will Li Pellet Injection into LSN He discharges affect subsequent D LSN H-Mode discharges of the same shape? (FY05 LPI tested only L-mode at low density).

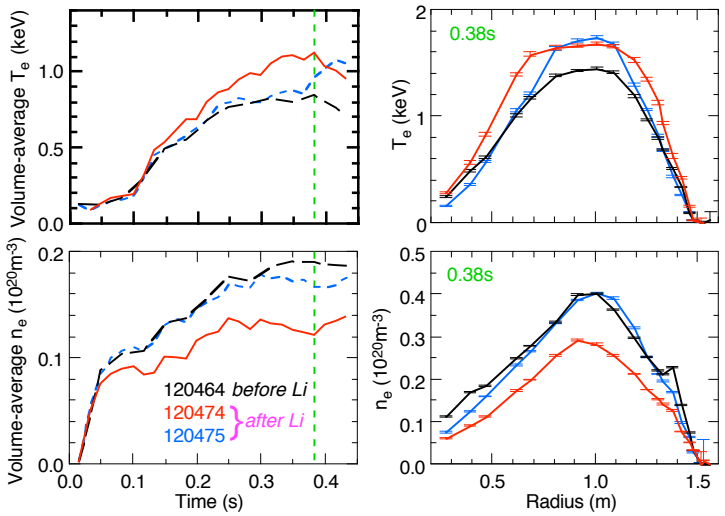
2) How will direct injection into ohmic phase of D LSN H-Mode discharges affect subsequent NBI phase?

(FY04 LPI tested only L-mode/dithering D NBI and found no density effect).

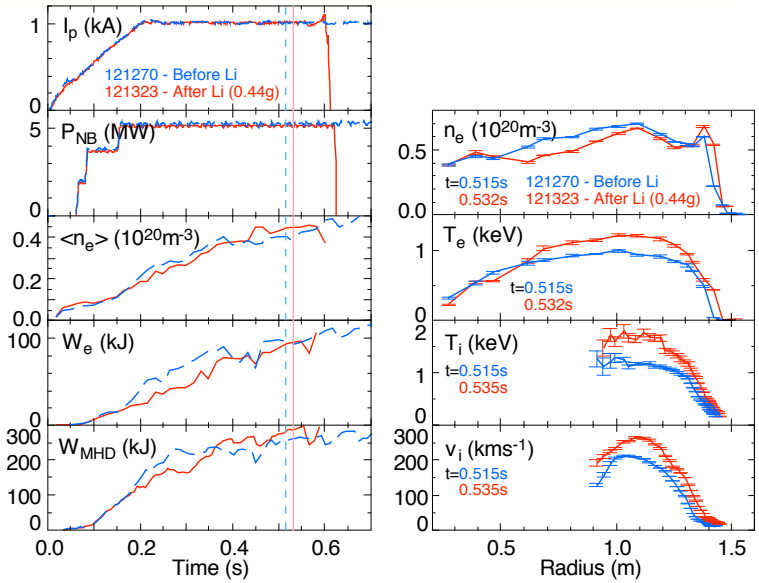
LPI at Low Density and LITER at Higher Density

LPI LSN L-mode





LITER-1c LSN L-mode



LITER-1c LSN H-mode

Summary from ET Edge Meeting 1/31/07

1) Do not try to get low density H-mode target plasmas - hard to achieve and not ultimately not relevant if goal is to study lithium effects on "standard" H-modes

2) Run time can be possibly reduced by limiting or foregoing helium conditioning discharges

XP 718 Shot List to Investigate Effect of Lithium Pellet Injection on H-Mode Performance with LPI

Shot #	Type	Li mg	Purpose
1	D/NBI[a]	0	Initial Fiducial
2	He/Ω[b]	3	Deposit Li without consuming
3	D/NBI	0	Test if pumpout due to last small amount. If yes, repeat fiducial
4	He/Ω[b]	3	Deposit Li without consuming
5	He/Ω[b]	3	"
6	He/Ω[b]	3	"
7	He/Ω[b]	3	"
8	He/Ω[b]	3	"
9	D/NBI[a]	Σ=15	Test if pumpout due to larger amount. If yes, repeat fiducial
10	D/NBI[a]	3	LPI @ ~50 ms into Ω before NBI. If yes, repeat
11			Reserve
12			Reserve

a) Eg., 121323
b) Eg., 120468

Options
1. 1.7 mg Li
2. Helium preconditioning discharges