

Lithium Vapor Box Divertor Concept

- Provide a localized cloud of Li vapor away from main plasma
- Evaporation at $\sim 750^\circ\text{C}$
- Condensation at $\sim 3-400^\circ\text{C}$ (determines DT pumping)
- Return liquid lithium to evaporator.
- Creates strong vapor gradient.
- Detachment front cannot run up to x-point.
- Detachment front location is resilient to variable heat flux.
- Cannot be achieved with gaseous impurities – pumping is too weak.
- Use low-Z Li for divertor radiation, higher Z upstream.

