

Liquid lithium (LL) loop system to solve challenging fusion power plant technology issues by M. Ono et al., FIP/2-5

- Lithium (Li) has been shown to provide many benefits to plasma performance and operations in NSTX and many other devices worldwide.
- LL provides renewable surfaces and effective medium to protect solid divertor PFC substrates from steady-state and transient heat/particle flux in reactor.
- Li can provide an effective means of reducing divertor heat flux through radiation while strong particle pumping by Li leading to “low-recycling” radiative LL-divertor concepts (RLLD, Active-RLLD).
- A modest LL-loop of ~ 1 l / sec could provide a means to remove dust and impurities from reactor divertor chamber.
- The LL-loop system could provide an efficient way to recycle tritium and control tritium inventory in fusion reactor.

