Tokamak Experiments Overview

Presented by: Clement Wong
for the Tokamak Experiments Team

Activities

- Li-DiMES experiments
- CDX-U experiments
- NSTX Li-module
- C-MOD Li-divertor
- …Others

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Lithium Has Different Applications and Interactions in a Tokamak

- Wall conditioning?
- Particles pumping and plasma edge modification… low recycling regime?…in solid and/or liquid form?
- Benchmarking of modeling codes and study of impurity transport.
- High heat flux removal?
- Plasma stabilization?
- Plasma interactions: Disruption/ELMs/ L-mode?

Agenda

1.	Tokamak Experiments Overview	5 minutes	Wong
2.	Disruptive Li-DiMES Experiment and Analysis	30 minutes	Whyte
3.	Sandia Li Experiment	10 minutes	Ulrickson /Youchison
4.	Highlights of Experiments with Li other than DiMES	20 minutes	Majeski

To Enhance Our Understand
We Propose to Focus on the
L-Mode Disruptive Li-DiMES Experiment

Sam Berk raised two questions:

(1) Does the radiative collapsed plasma and the subsequent disruptive effect indicated by the Li-DiMES exposure raise concerns about the viability of using liquid lithium surfaces in a tokamak?

(2) Would a mid-plane lithium limiter module in NSTX expect to cause a similar consequence to the NSTX plasma?

The best way to answer these questions is to understand what happened

- If it is JxB MHD injection of Li, can we prevent it ?

This effect could be modeled.

- If it is due to rapid Li vaporization, can we control it ?

SNL is performing e-beam heating experiments.

- Other effects?