

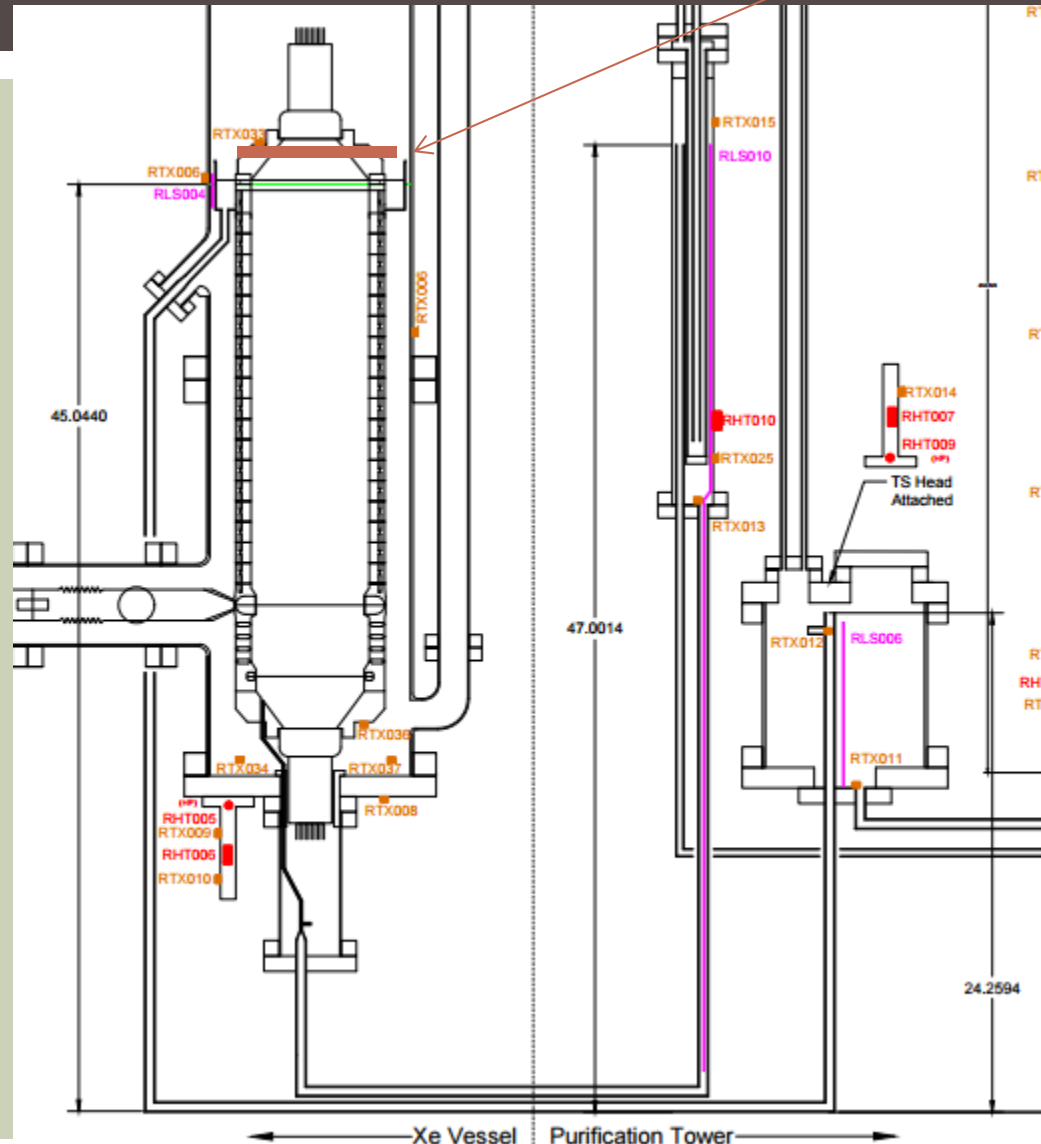
# THE MYSTERIOUS CASE OF THE LEVITATING XENON: THE SEQUEL

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# CHAPTER 1: THE PROBLEM

Liquid sits  
somewhere  
up here

Xenon does not reliably flow through the weir to the reservoir. Instead it often sits at a level above the weir.



# CHAPTER 2: THE TESTS

While circulating with the compressor:

- Carter Hall cooled the U-tube with water ice on Tuesday 9/27
- Cooled with dry ice on 9/28
- Continued cooling and increased detector pressure to 1.9 bar on 9/29

# CHAPTER 3: THE RESULTS



**Water Ice  
Test**

**Dry Ice  
Test**

**Raised detector  
pressure**

**Change in LS  
calibration**

**Unexplained  
deviation**

# CHAPTER 4: THE THEORY

- Heat load on the outlet tube creates bubbles of Xe.
- Bubbles rise and impede flow.
- Cooling was not sufficient to reduce heatload, but pressure increase may decrease bubble size, less significantly impeding flow.

