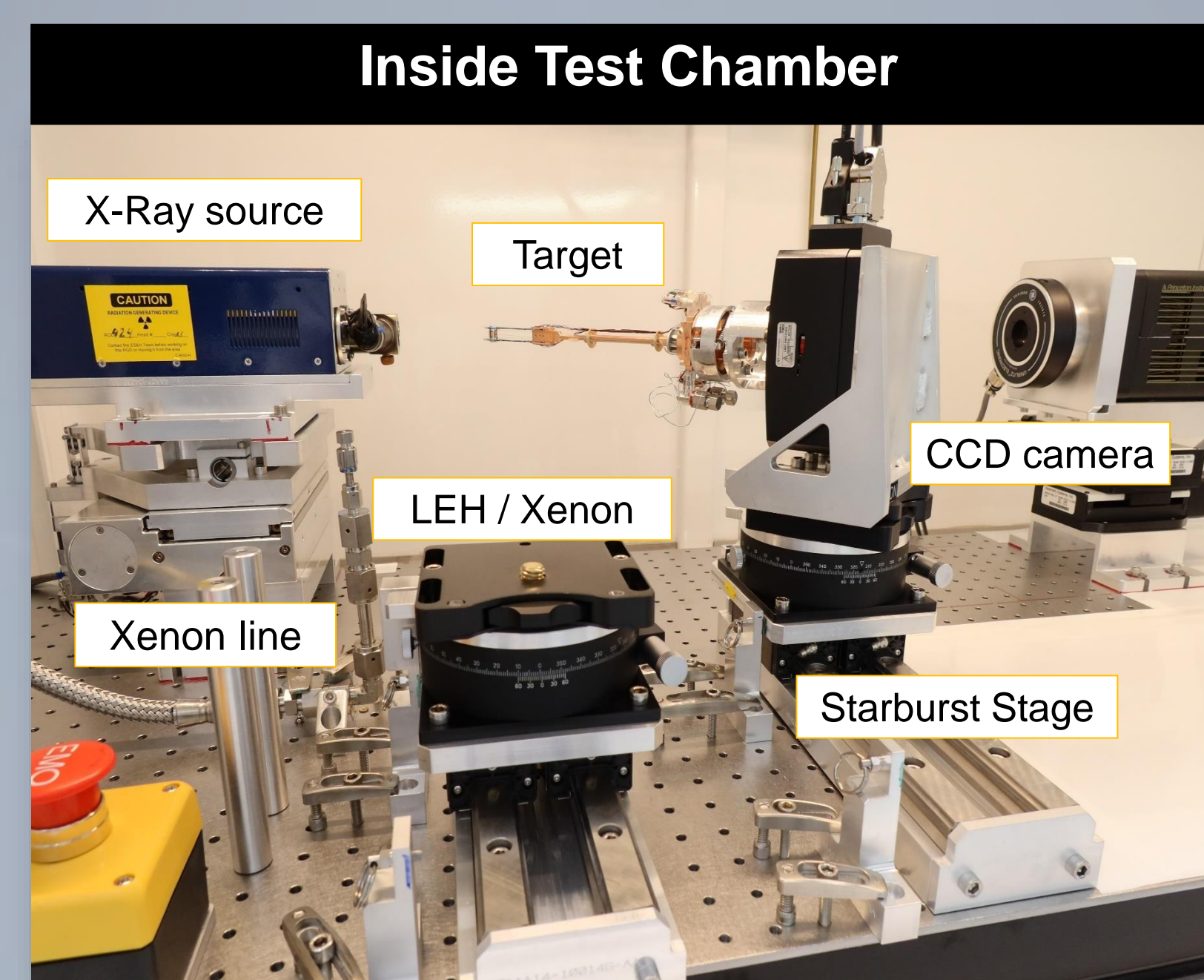
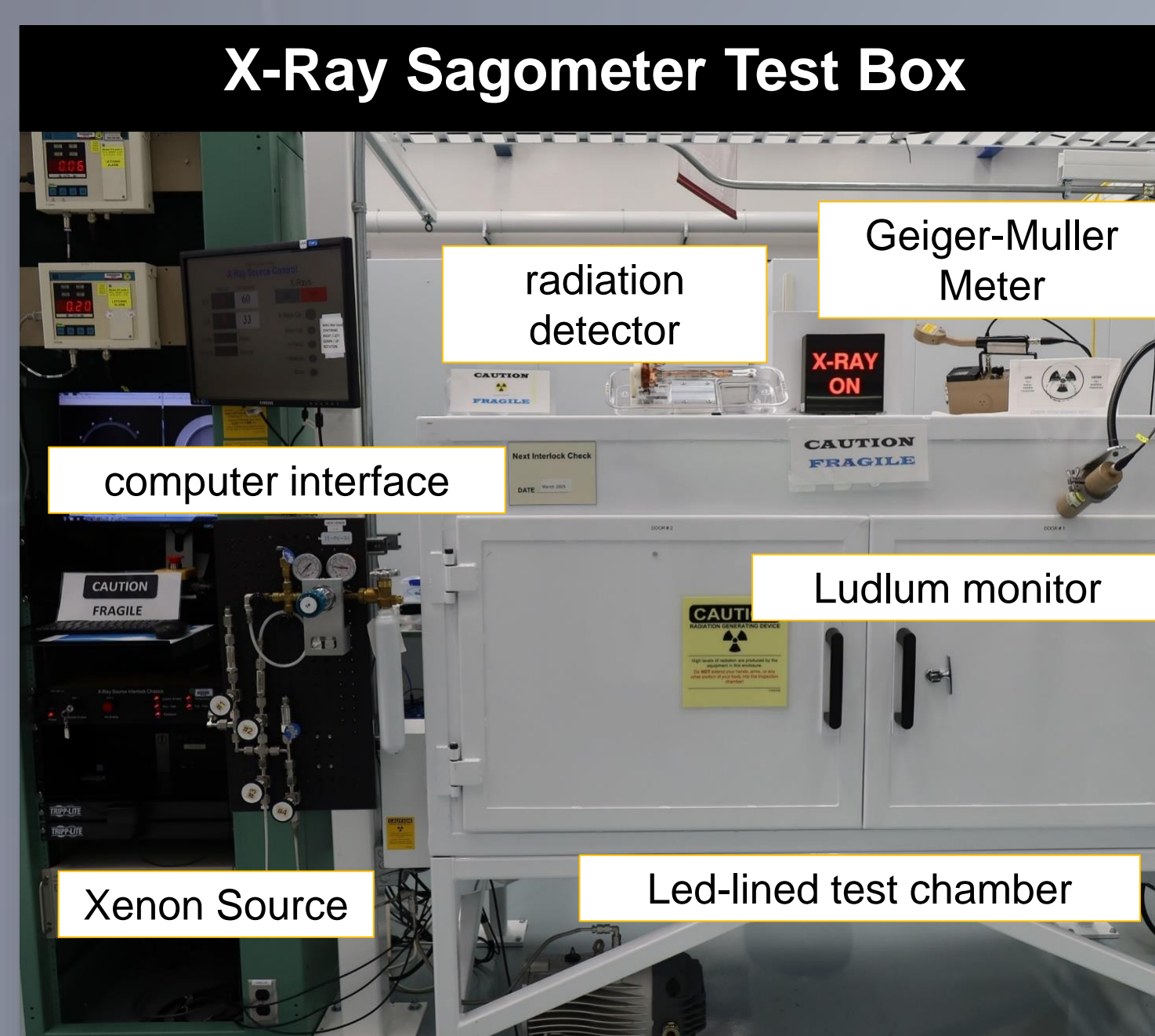




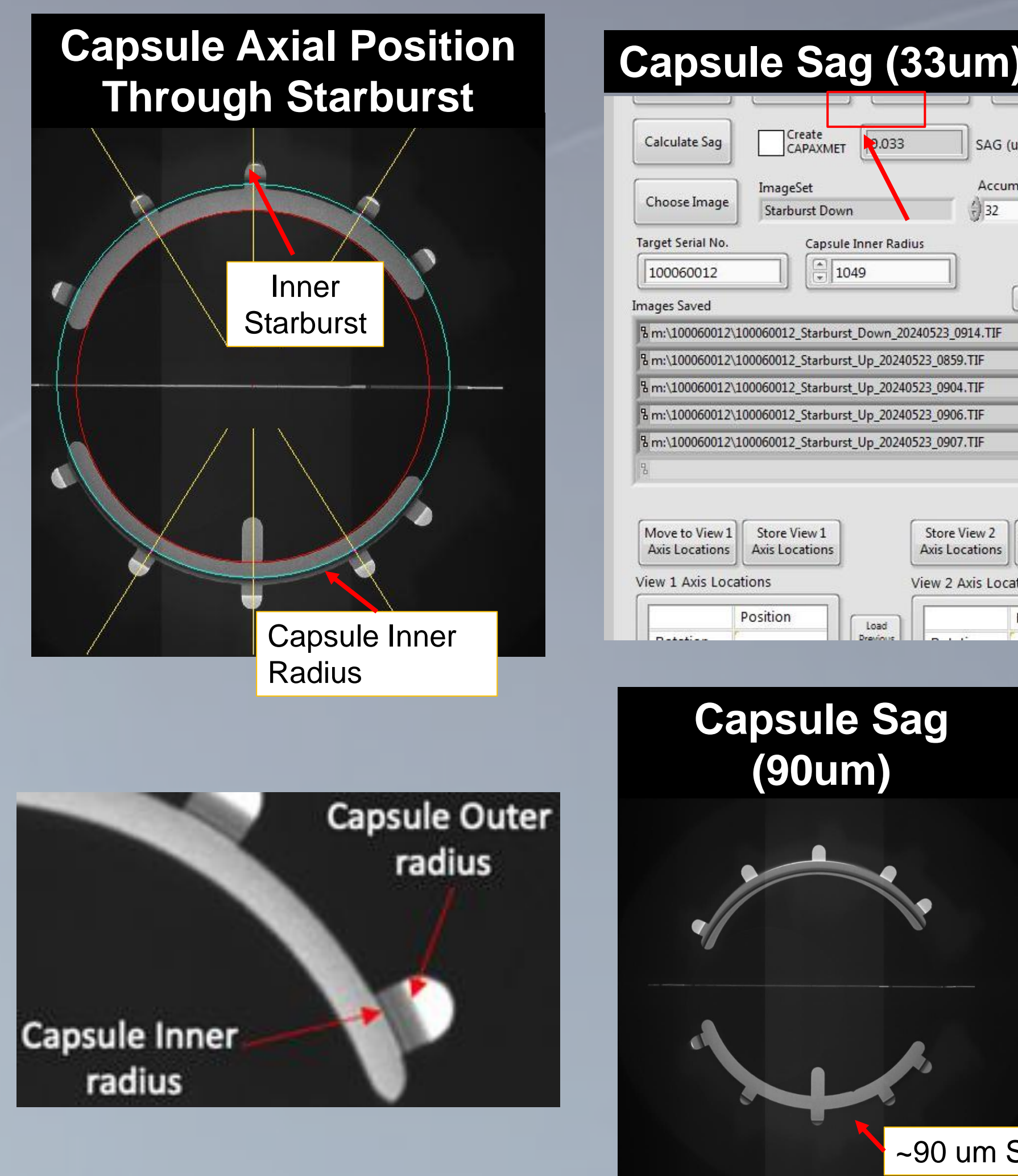
INTRODUCTION

The X-ray Sagometer test box is a lead-lined, inter-locked test chamber initially used to calculate capsule sag for ignition targets utilizing a low power x-ray source. This diagnostic equipment has also proven to be resourceful in providing qualitative and quantitative measurements to prove CFTA and Target integrity. The Sagometer has the capability to image starburst, calculate capsule sag, image through LEH windows, shift targets for parallax images, and image with xenon fill.



- The Sagometer is controlled through a computer interface
- STB access doors, radiation detectors, and warning lights are part of the interlock chain monitored by the X-ray Interlock Chassis
- Operator has control over the x-ray source, CCD camera, and target positions

CAPSULE SAG



- ~2.0 mm diameter capsule
- Capsule is decentered axially
- Software calculates capsule is 33um high with respect to target center

TARGET IMAGING for CLEANLINESS

Hohlraum Starburst Slivers

- Precursors of catastrophic hohlraum defects
- Can lead to total delamination of the hohlraum
- Can block the diagnostic line of sight used by NIF to layer the target

Labels: Sagometer Image, Few Slivers, Lots of Slivers, Hohlraums with Starbursts, No Slivers, Sliver, Microscope Pictures

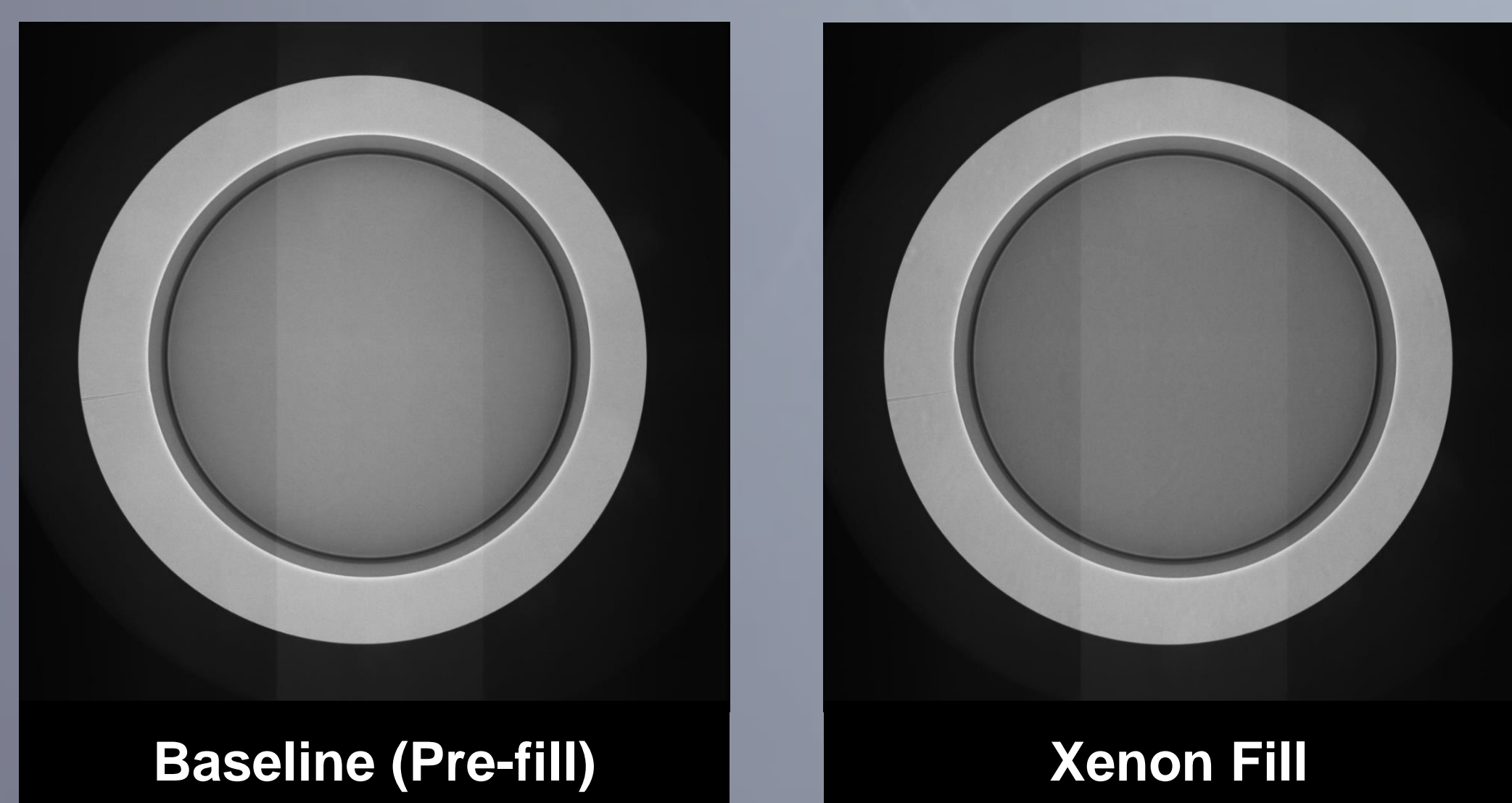
Capsule Particles

Labels: Laser Entrance Hole X-Ray

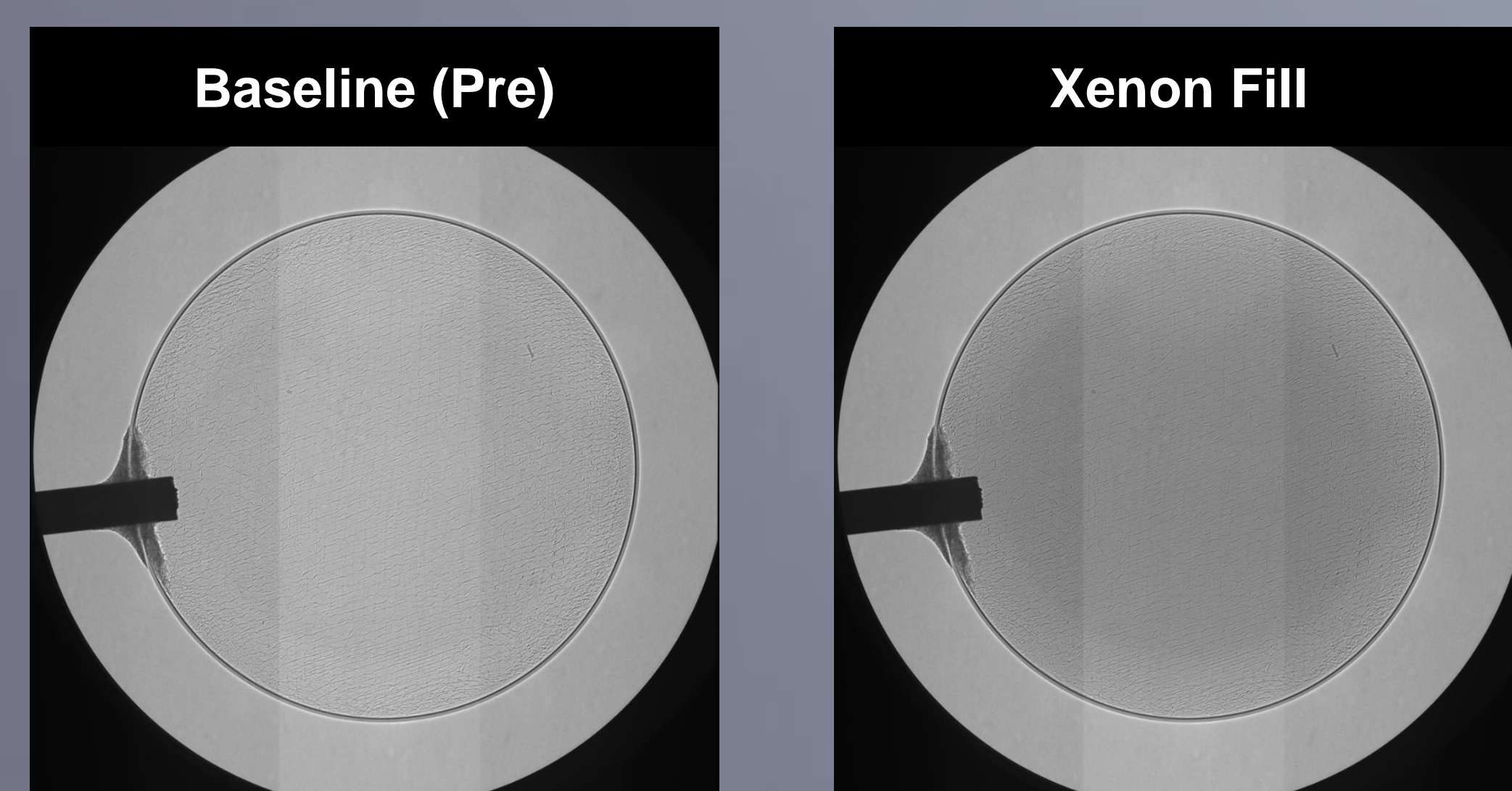
- Known to impact yield
- Parallax images used to locate particles
- Used to determine if on the capsule or the LEH windows

XENON FILL - Check for Plugs

Normal Capsule

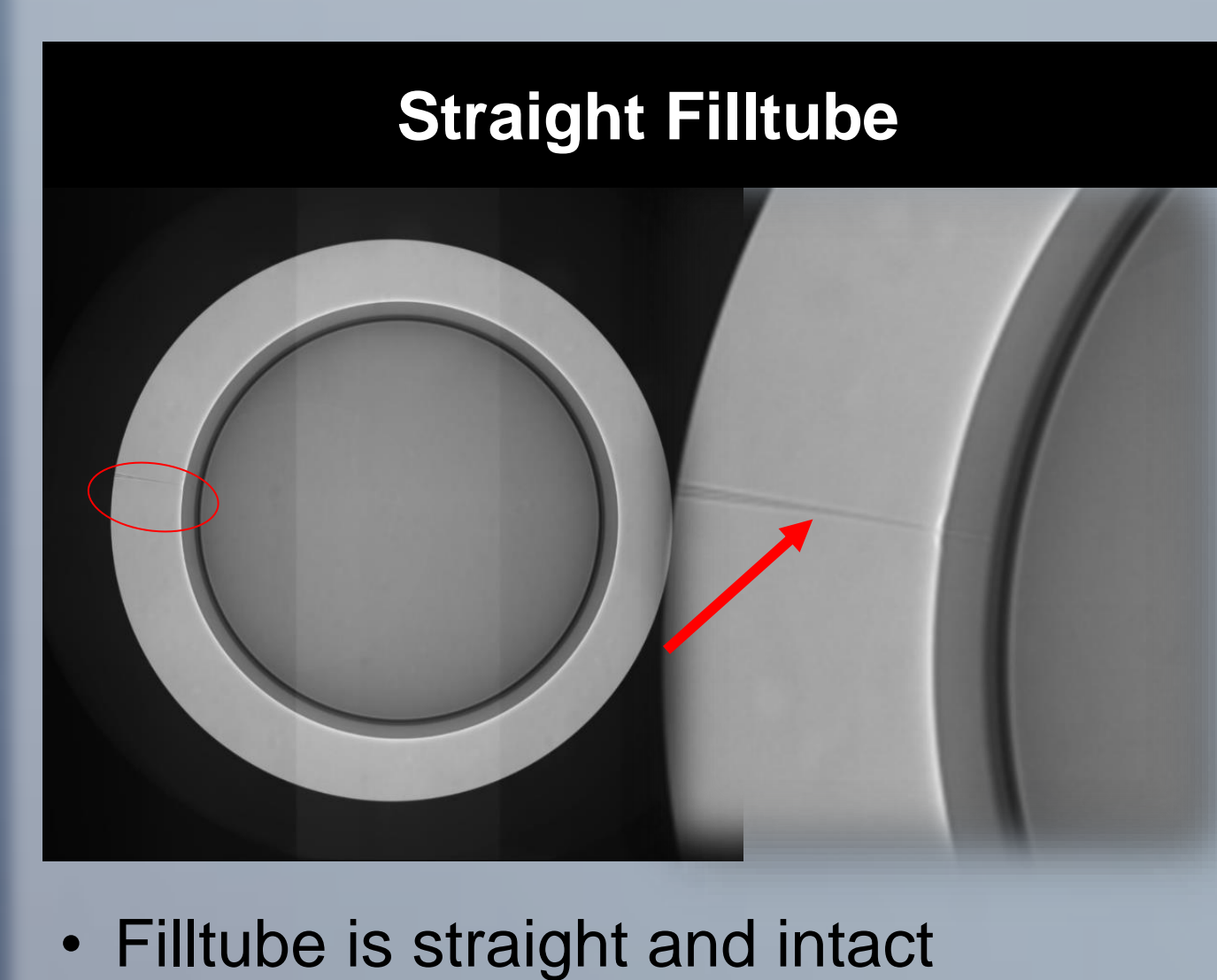


Polar Direct Drive Capsule

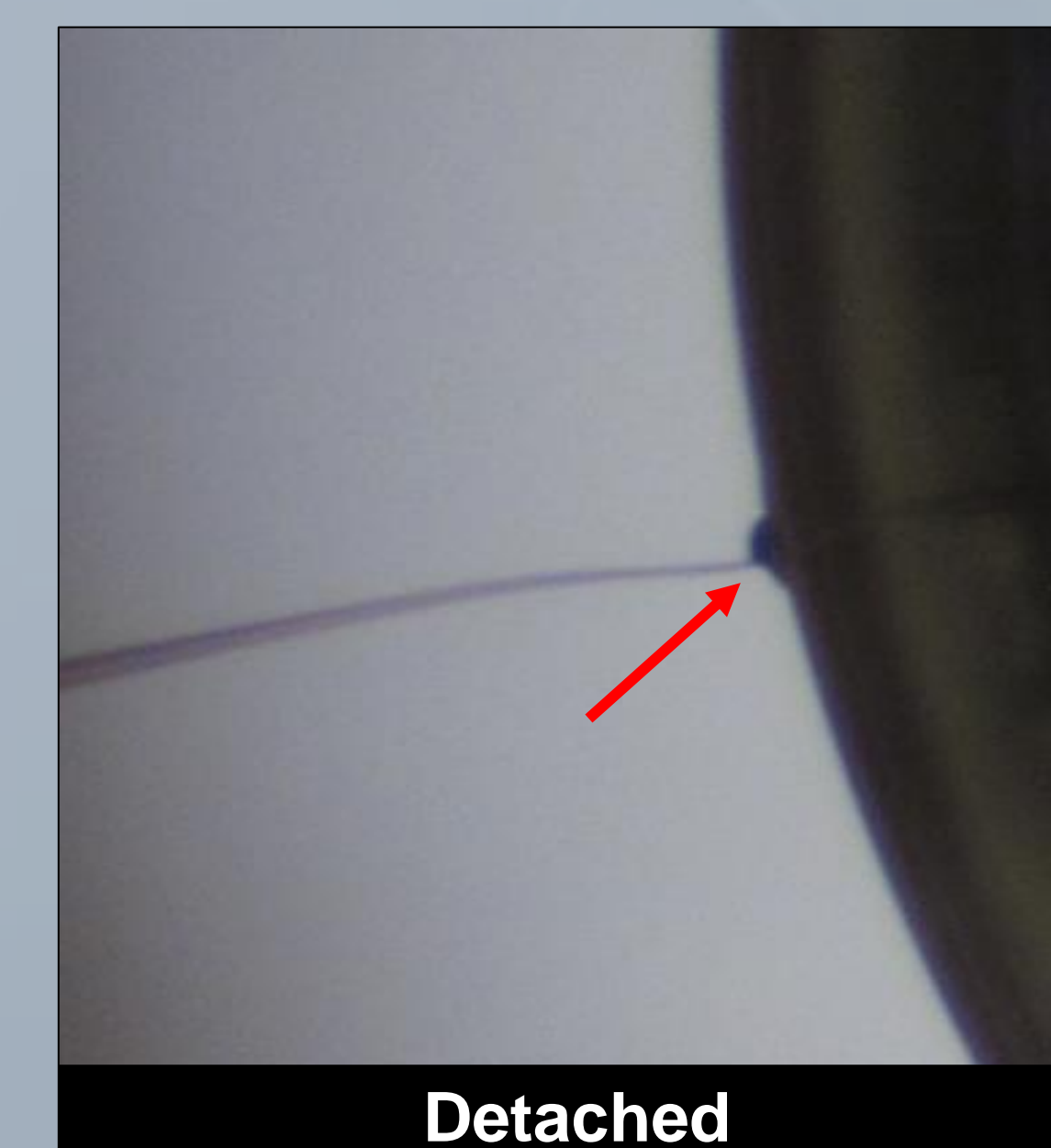


FILL TUBE INTEGRITY

Good

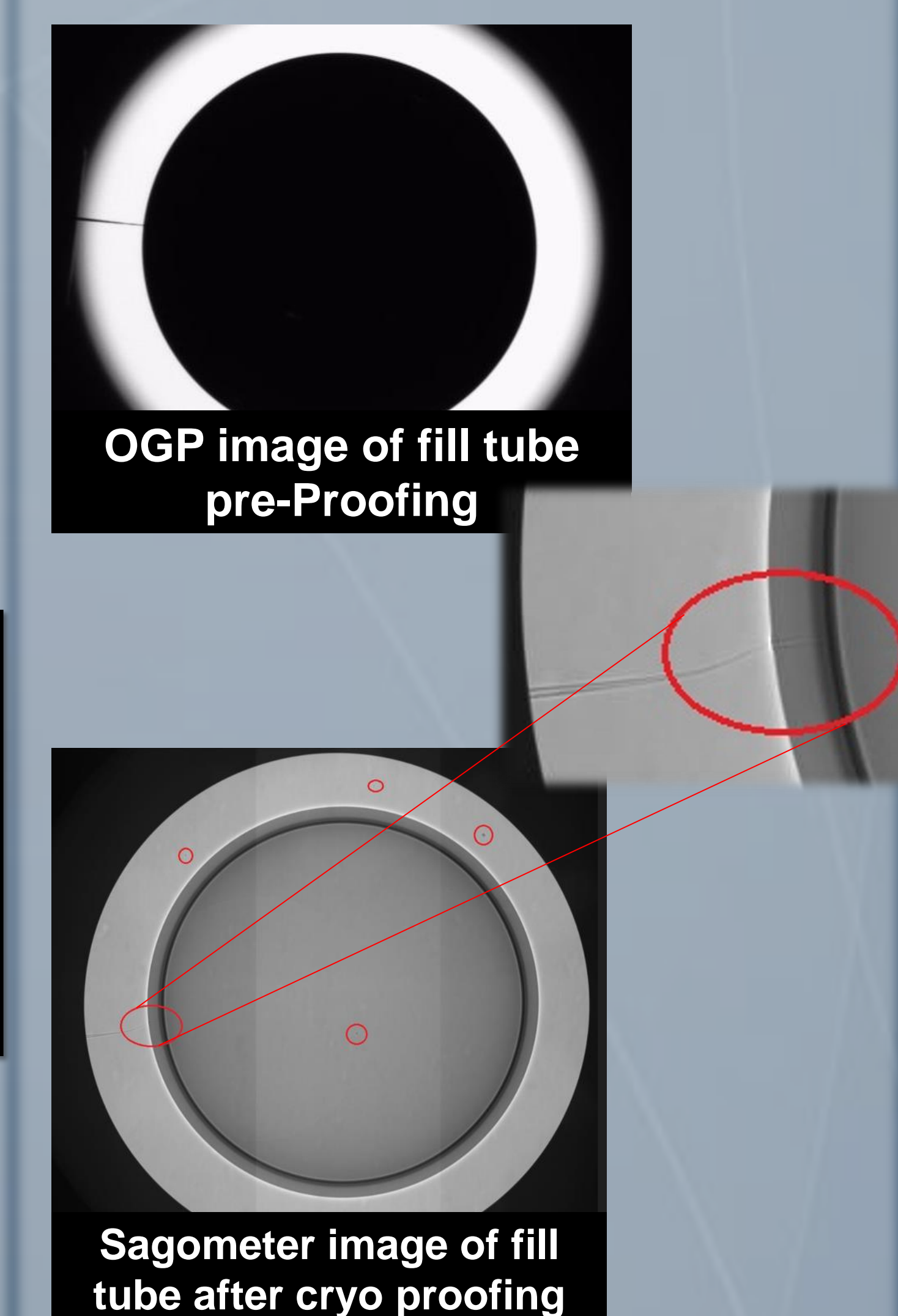


Damaged

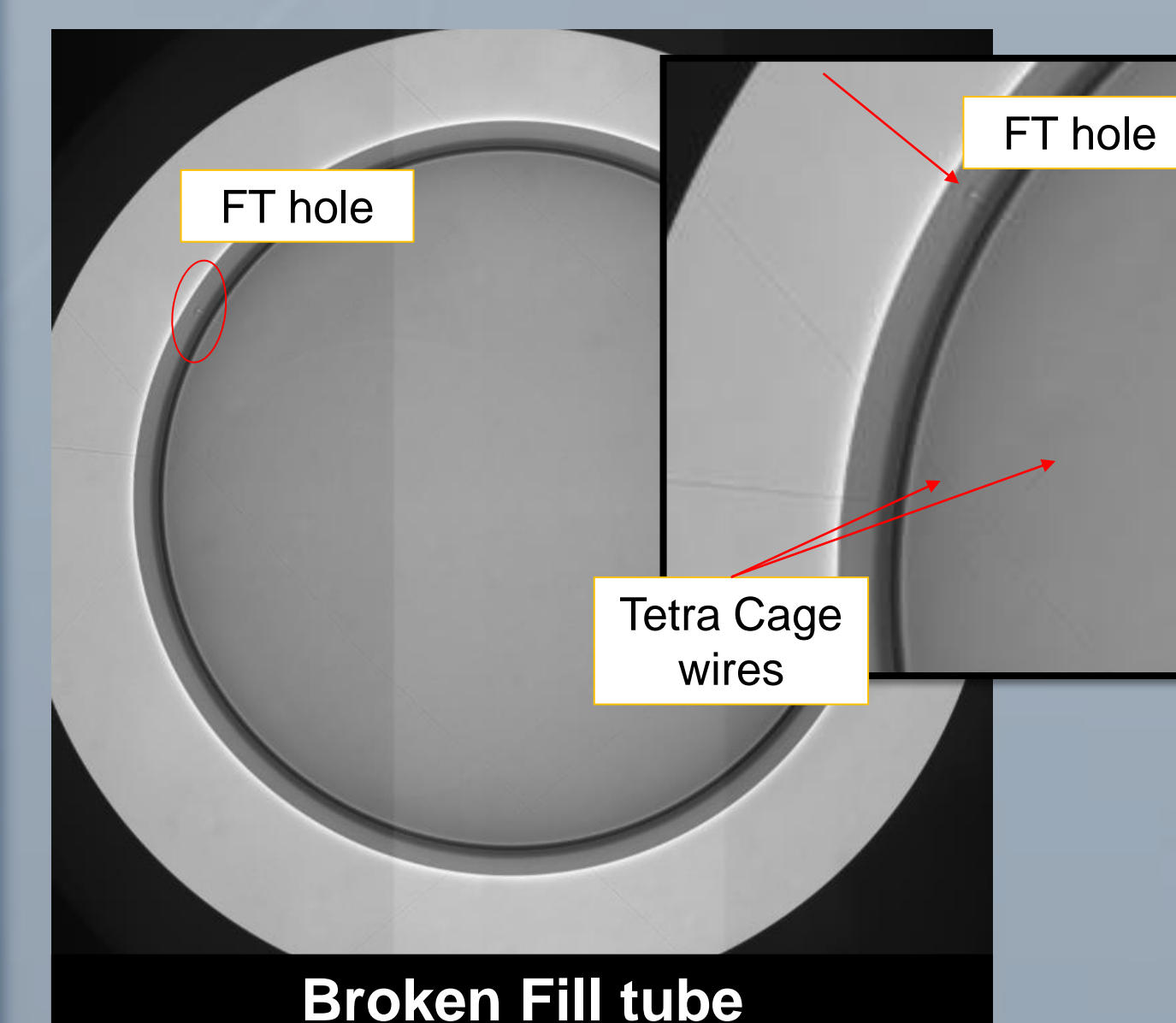
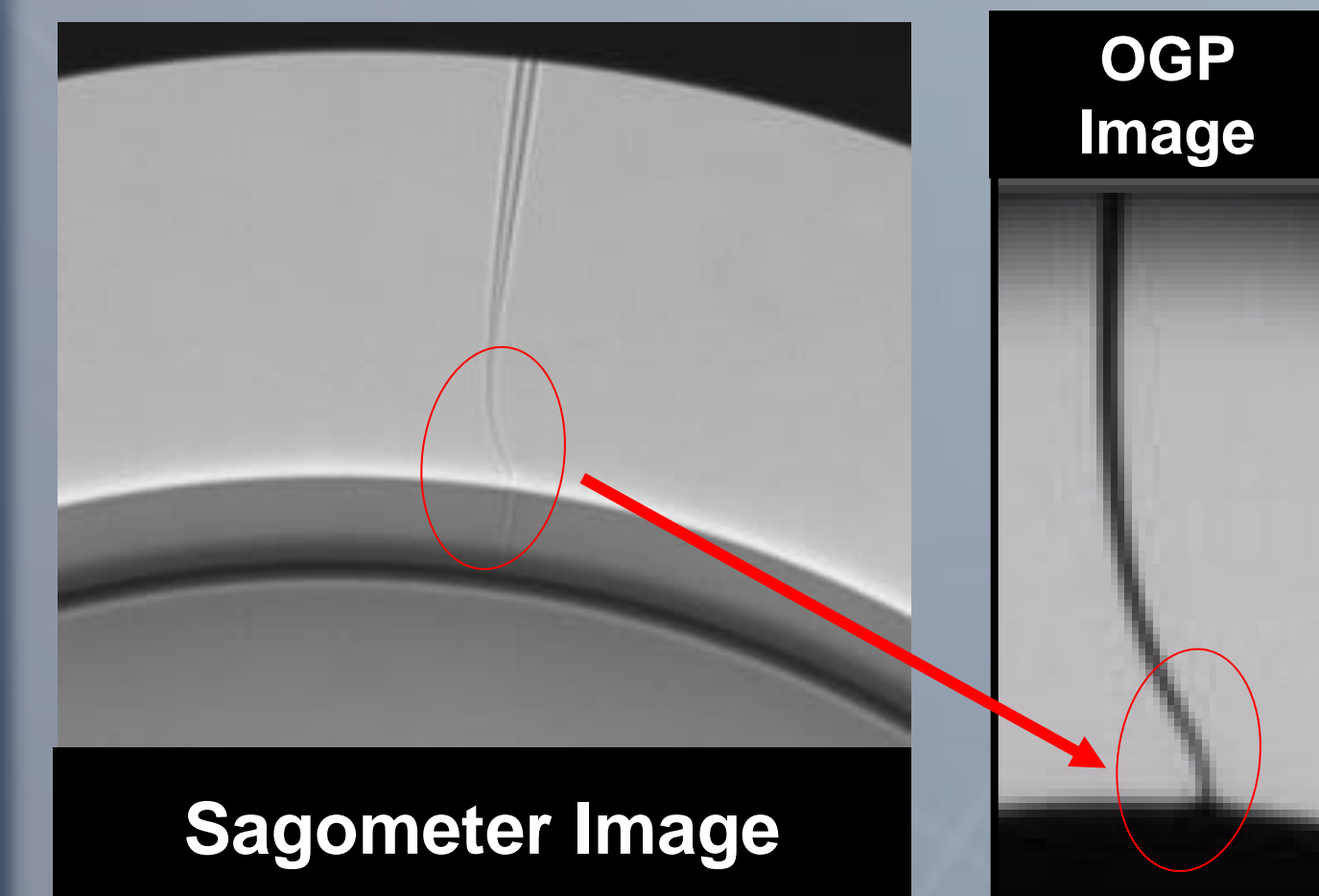


Change Over Time

- OGP image of straight fill tube during close
- Sagometer Image shows change
- Filltube curved after target close

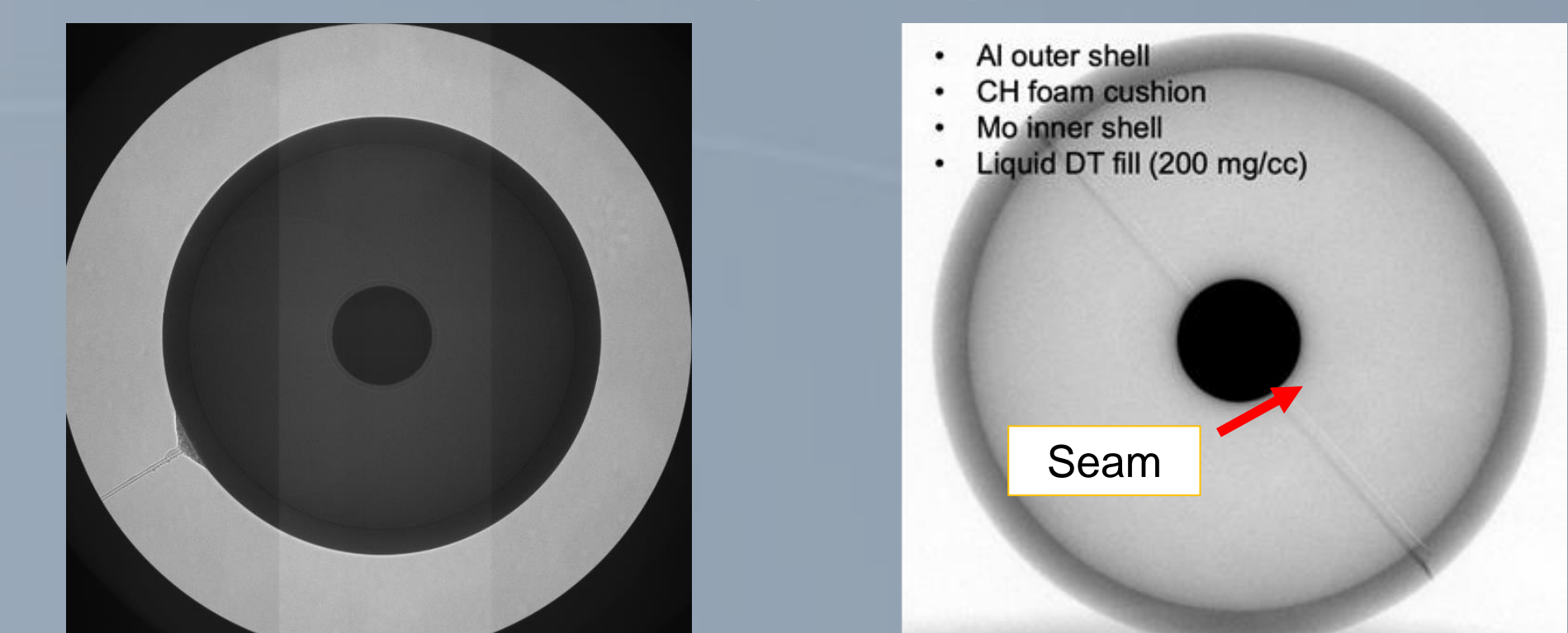


Bent



OTHER APPLICATIONS

Double Shell CFTAs



Looking for Bubbles in Water Filled Capsules

