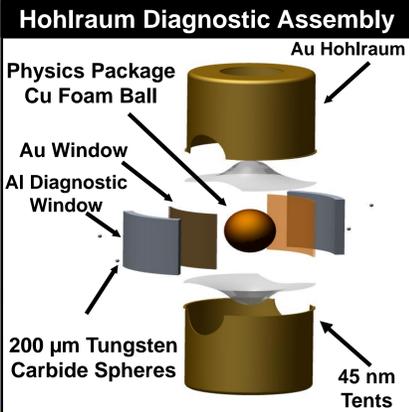
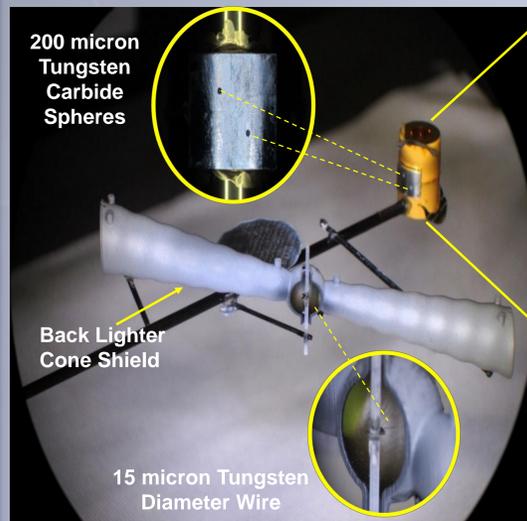




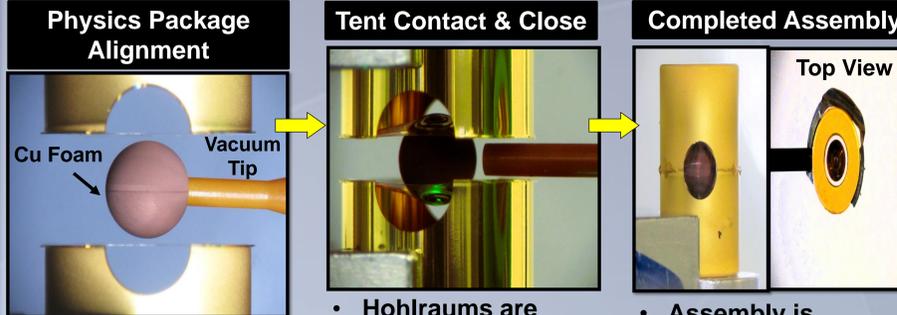
TARGET BACKGROUND

- Target experiments for the HED Complex Hydro program study complex hydrodynamic phenomena measured at higher pressures and velocities using Advanced Radiographic Capability (ARC).
- This capability developed on the National Ignition Facility (NIF), expands significant class of new measurements for producing quality data at extreme conditions.



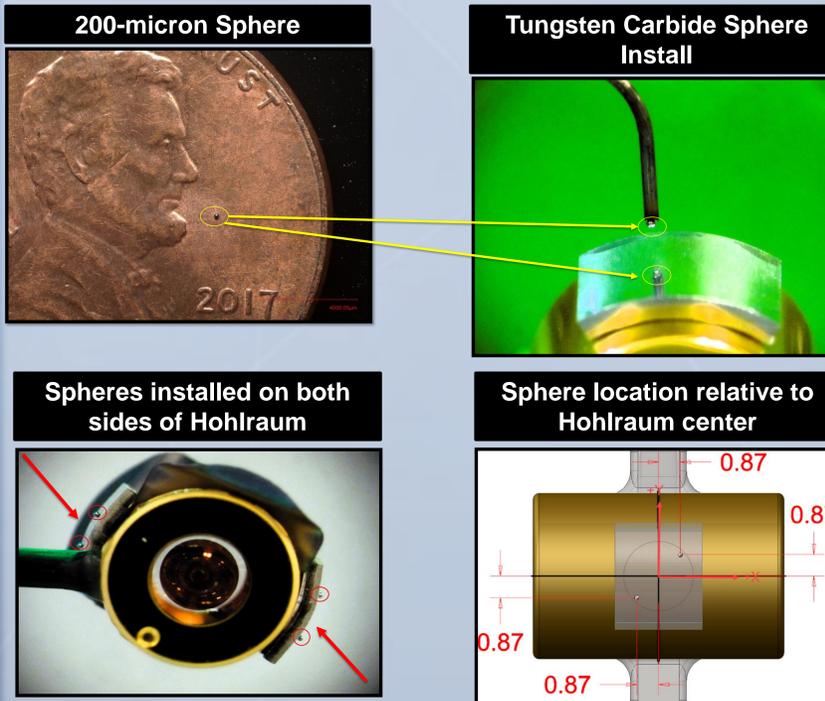
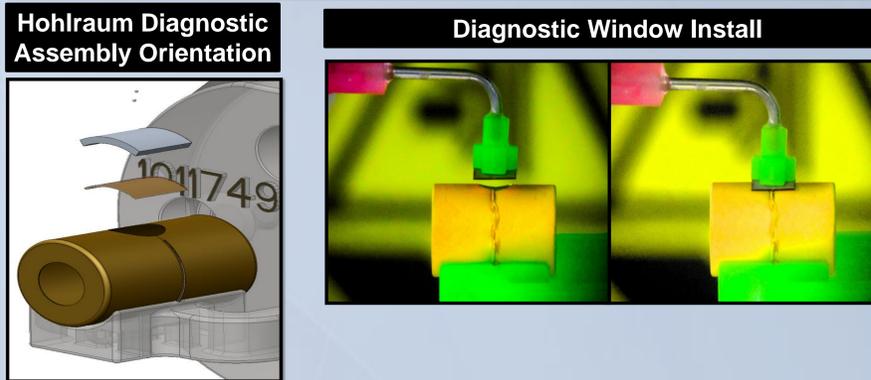
- Target Diagnostics require micron accuracy in metrology and alignment to meet precise specifications for ARC.

PHYSICS PACKAGE TO HOHLRAUM ASSEMBLY



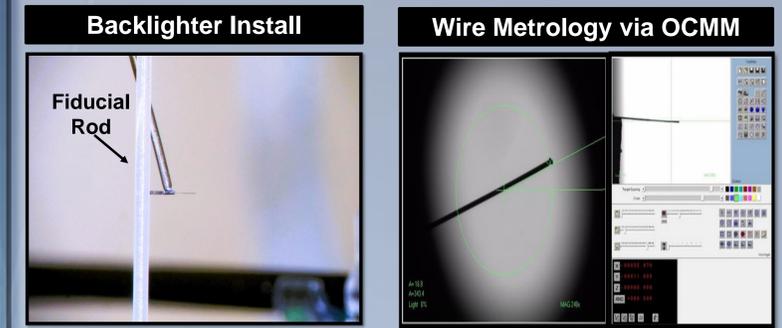
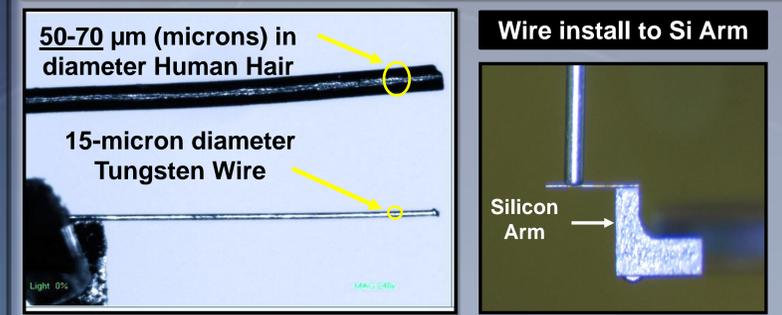
- Physics Package orientation is critical during assembly.
- Hohlraums are brought in together simultaneously, released from vacuum and suspended between 45nm tents.
- Assembly is successful when Physics Package is aligned and Hohlraums are closed

DIAGNOSTIC ASSEMBLY

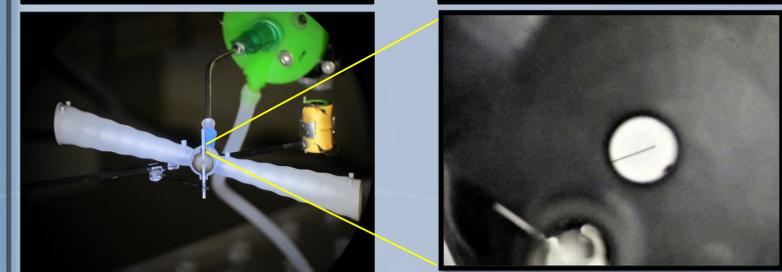


- Sphere position accurately determine image magnification measurements and monitor x-ray source location.

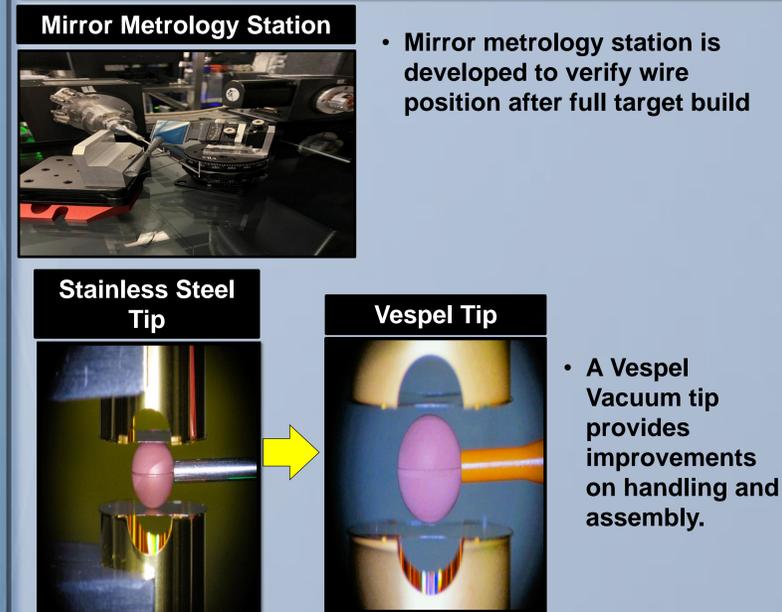
BACKLIGHTER WIRE & CONE ASSEMBLY



- Fiducial Rod position is important for alignment on target chamber
- Wire View from Top of Cone shield

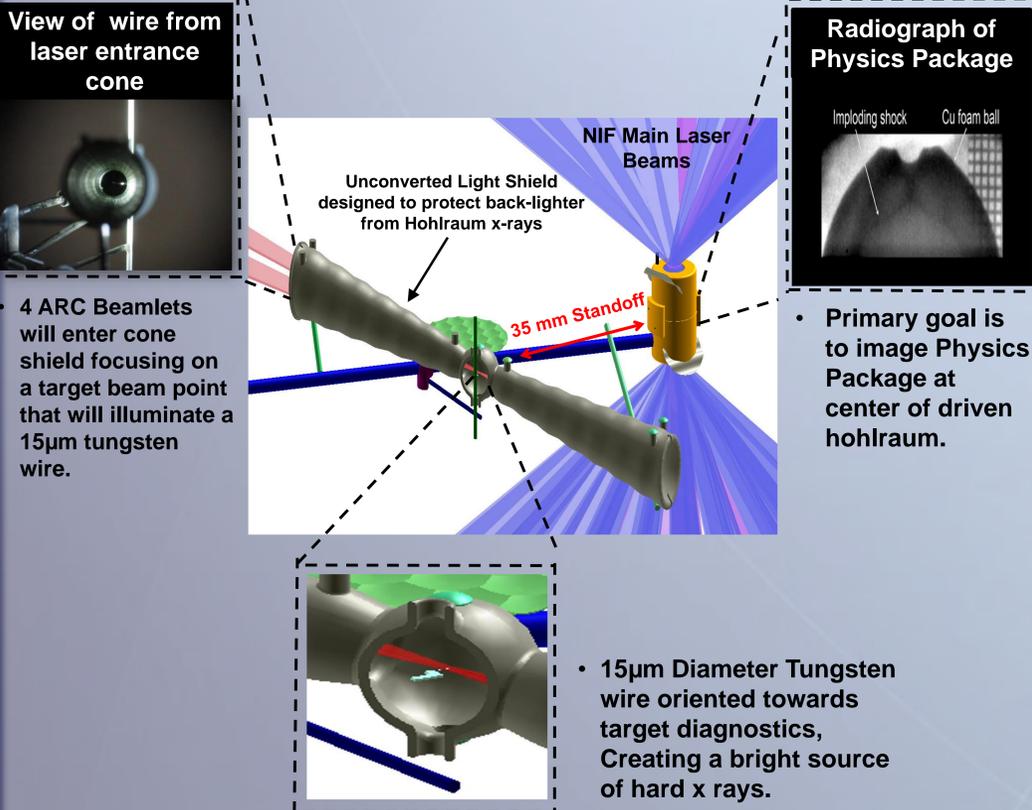


PROCESS IMPROVEMENTS



- Mirror metrology station is developed to verify wire position after full target build.
- A Vespel Vacuum tip provides improvements on handling and assembly.

EXPERIMENT OVERVIEW



- 4 ARC Beamlets will enter cone shield focusing on a target beam point that will illuminate a 15μm tungsten wire.

- Radiograph of Physics Package showing Imploding shock and Cu foam ball.
- Primary goal is to image Physics Package at center of driven hohlraum.

- 15μm Diameter Tungsten wire oriented towards target diagnostics, Creating a bright source of hard x rays.