MERIT Optics Cleaning Status

V.B. Graves

August 31, 2011



MERIT Optical Component Cleaning

- Optical components, beam window, and nozzle decontaminated for shipping 26 August 2011
- Smaller items cleaned in a multi-stage process
 - Three ultrasonic cleaning solutions (HgX, Branson IS, Branson OR)
 - Acetone
 - Isopropanol
- Nozzle piping rinsed with HgX, a mercury-absorbing powder dissolved in water



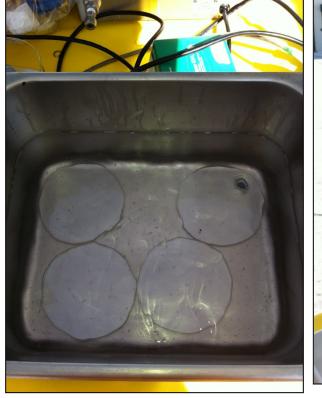
Setup



Sapphire Disk Processing

- 15 minutes in each solution (Branson solutions shown), then rinse with acetone & isopropanol
- One disk was broken during original dismantlement operations







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Beam Window Processing

 HgX solution shown, but window went through same process as sapphire disks







5 Managed by UT-Battelle for the U.S. Department of Energy

Nozzle Pipe Processing

• Exterior wiped and interior rinsed 3 times with HgX







6 Managed by UT-Battelle for the U.S. Department of Energy

Radiation Measurements

- All items were below detectable limit with gamma monitor
- Nal measurements also made, readings were above background

YT-40718	39	
CAU RADIOACTIV	TION /E MATERI/	AL 👗
SURVEY INFORMATION		
BUILDING 7615 NEST SIDE		
REQUESTED BY ORIGINATOR/DIVISION		
DESCRIPTION OF MATERIAL/REMARKS		
WINDOW #2 LEFT		
-MERIT EXPERIMENT-		
SURFACE CONTAMINATION		
MAX. FIXED + REMOVABLE ALPHA		
REMOVABLE ALPHA		
MAX. FIXED + REMOVABL		
REMOVABLE BETA/GAMM		
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	Contact	1 Foot Feet
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Next Steps

- Contact ORNL Shipping to arrange transport of all items to BNL
 - Other items include secondary beam windows and optics bench, but they weren't Hg-wetted and did not need to undergo the cleaning process
- Prepare to inspect interior surfaces of the MERIT jet containment snout with the Handysurf profilometer



