



MINOS/NUMI A.E.M. Report

MINOS for A. E. M.
Nov. 1, 2010
Jim Hylan/FNAL
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NUMI:

- Finished new target installation, alignment scans with beam last Fri./Sat.
- Running normal beam since 11AM today, ramping up intensity
- Running configuration is:
 - Reverse horn current (Anti-neutrino mode)
 - LE10 target position (target in horn for lowest energy spectrum)
 - Horn pulsing at 185 kA (versus 200 kA for LE100 and LE250)



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- Monitoring data and visual inspection from last target failure (NT-04) consistent with an internal leak of water from cooling line to helium containment tube, followed by dissociation of water to hydrogen and oxygen by beam, then hydrogen burn causing a pressure spike.
- For Target NT-05, we have increased the helium pressure to 37 PSIA, compared to ~ 30 PSIA water pressure at target tip. This should keep water out of the helium volume and allow continued running even if a leak in the cooling line develops.



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- Kris Anderson did X-ray inspection of water cooling lines in NT05, NT06. NT05 looks better, so we installed it. Both pass 90 PSI pressure test.
- Target carrier for NT-06 will be ready in spring 2011.
(no spare until then)
- Working on building another target (possibly two) by ~ 1 year from now.



MINOS ND & FD STATUS

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Both ND and FD are up.

ND was turned on after the power outages at the beginning of October and there were no major problems.

Polarities in ND and FD magnets are reversed:

Ready for antineutrino run

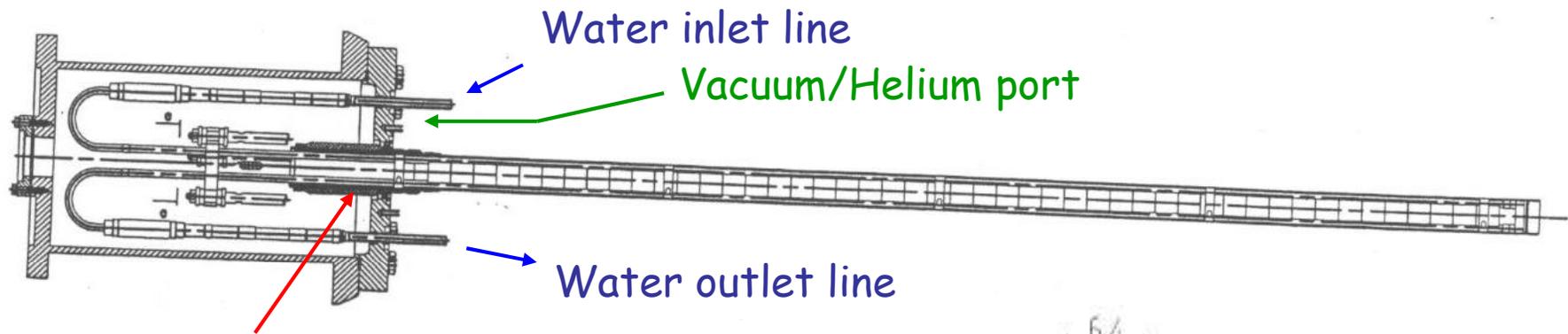


Backup slides

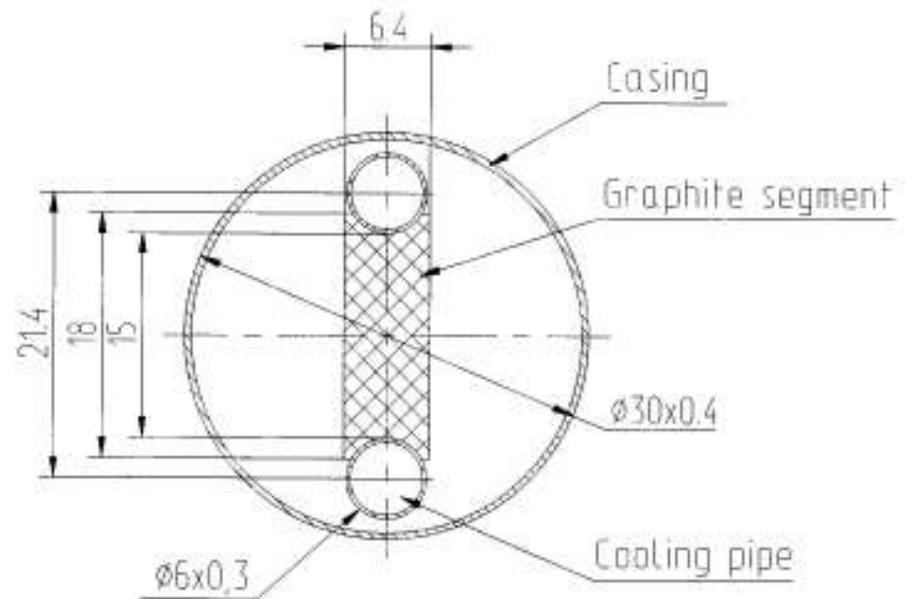
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Target



Ceramic electrical insulator





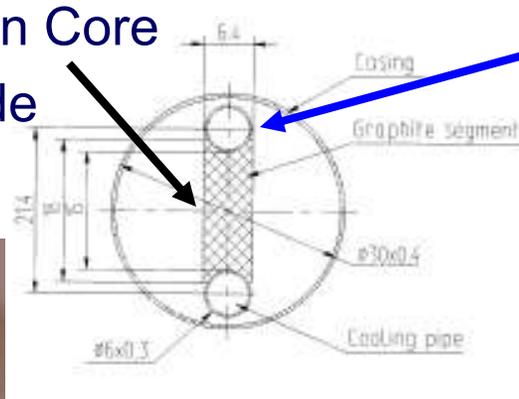
NUMI MINOS target

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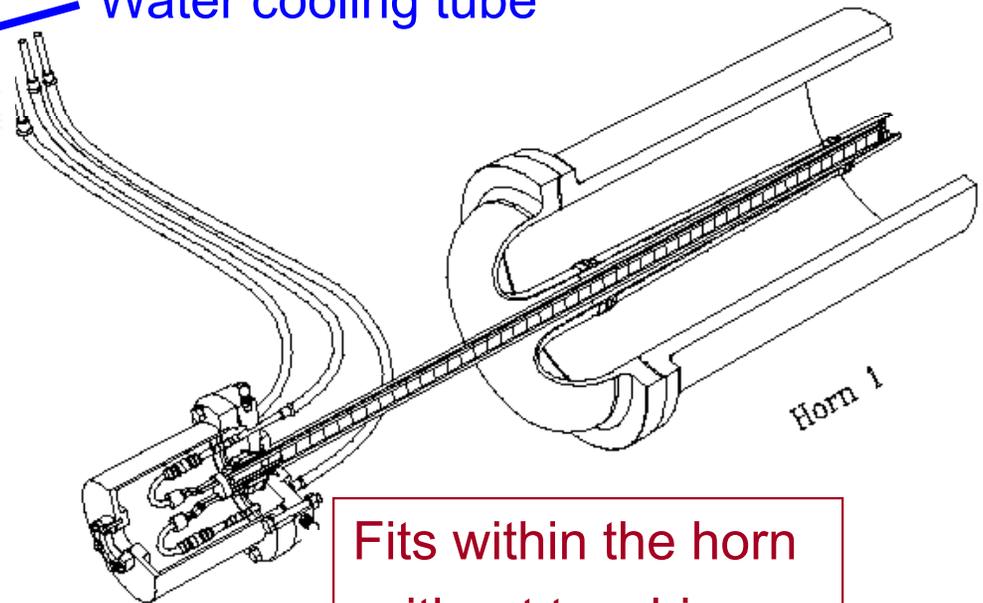
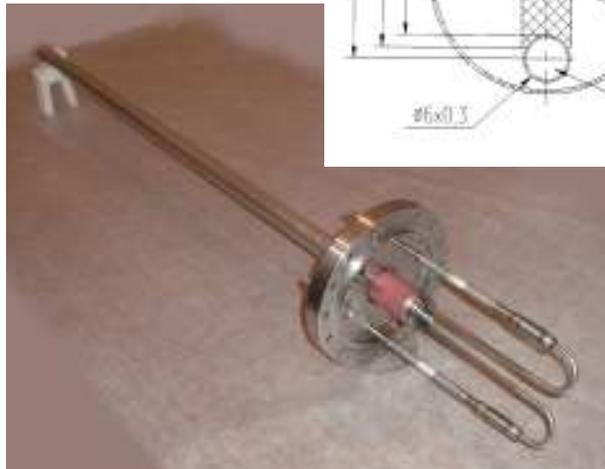
2 int. length long; narrow so pions get out sides without re-interacting



Graphite Fin Core
6.4 mm wide



Water cooling tube



Fits within the horn
without touching.

Every pulse, center heats to 330 C in 10 micro-seconds, cools to 58 C in 2 seconds



MINOS Target carrier

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Work cell

Target module in beam-line

1st target being removed

