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Spectrometer Small Angles

Lognumber 3879586. Submitted by lassiter on Wed, 06/09/2021 - 08:49.

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The following measurements were made yesterday.

Downstream beam pipe was positioned to fit next to the SHMS at 5.50 degrees (with a paper thickness gap to the notch of the HB magnet). Beam pipe was not under vacuum and the gap between the beam pipe and the target window flange was of the order of 2 to 3 mm by Walter's estimate.

Minimum Separation angle between the spectrometers:

HMS reaches its minimum separation angle with the SHMS at 12.49 degrees. The minimum separation angle is $12.49 + 5.50 = 17.99$ deg.

The front survey mount block was chamfered to allow a closer angle.

Smallest HMS Angle:

The HMS can reach 11.03 deg with the beam pipe positioned for the SHMS at 5.5 deg and with the SHMS being at angles greater than 6.97 deg.

The fouling point is the survey mount on the HMS Q2 touching the beam line.

Survey group should verify that the beam line is acceptable for the beam acceptance.

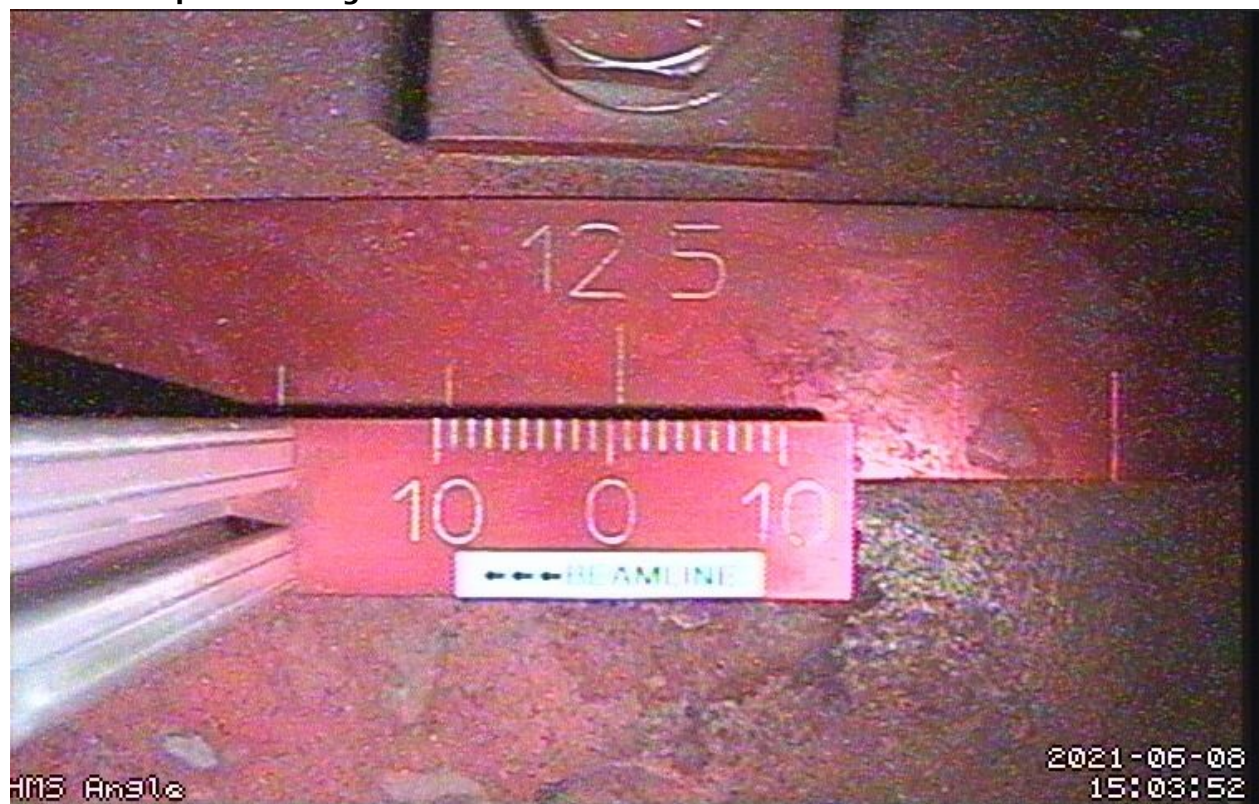
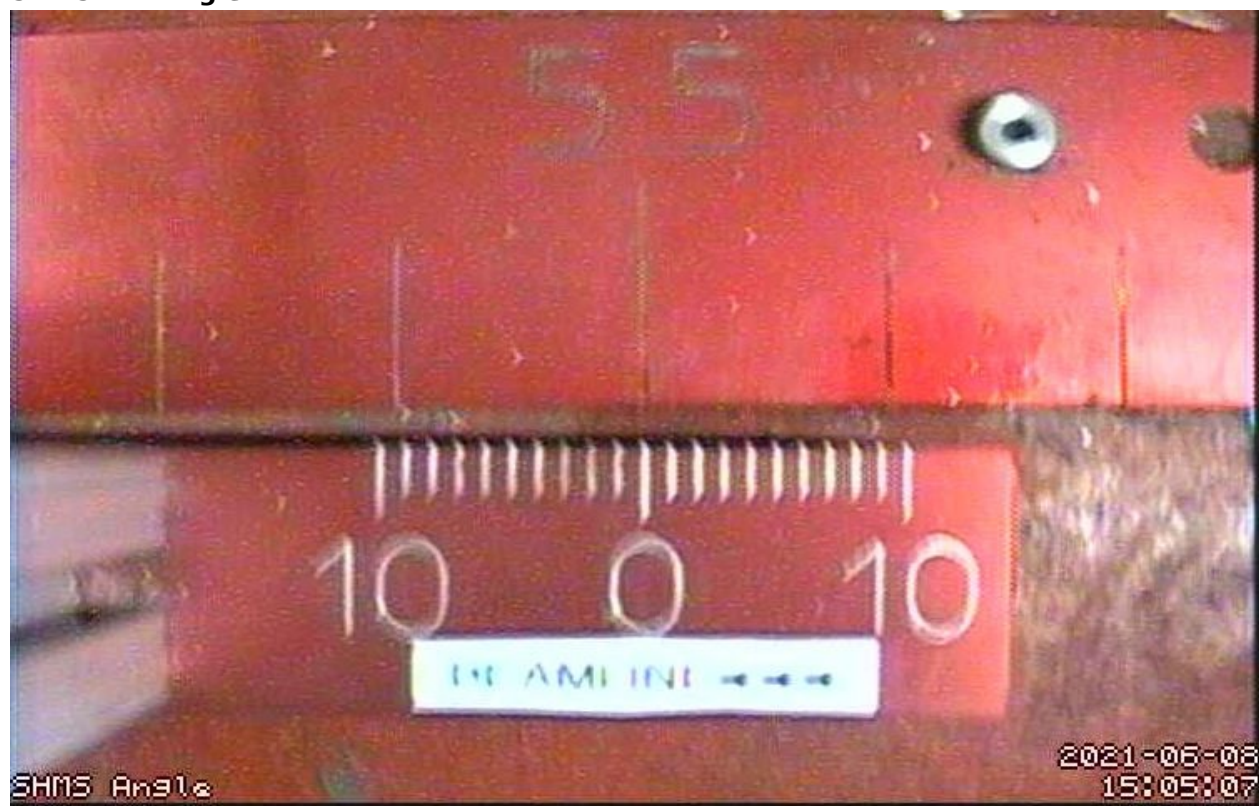
Survey block should be re-located on the Q1 and Q2 magnets.

Min separation angle limit switch was installed on the HMS near the Q1 magnet.

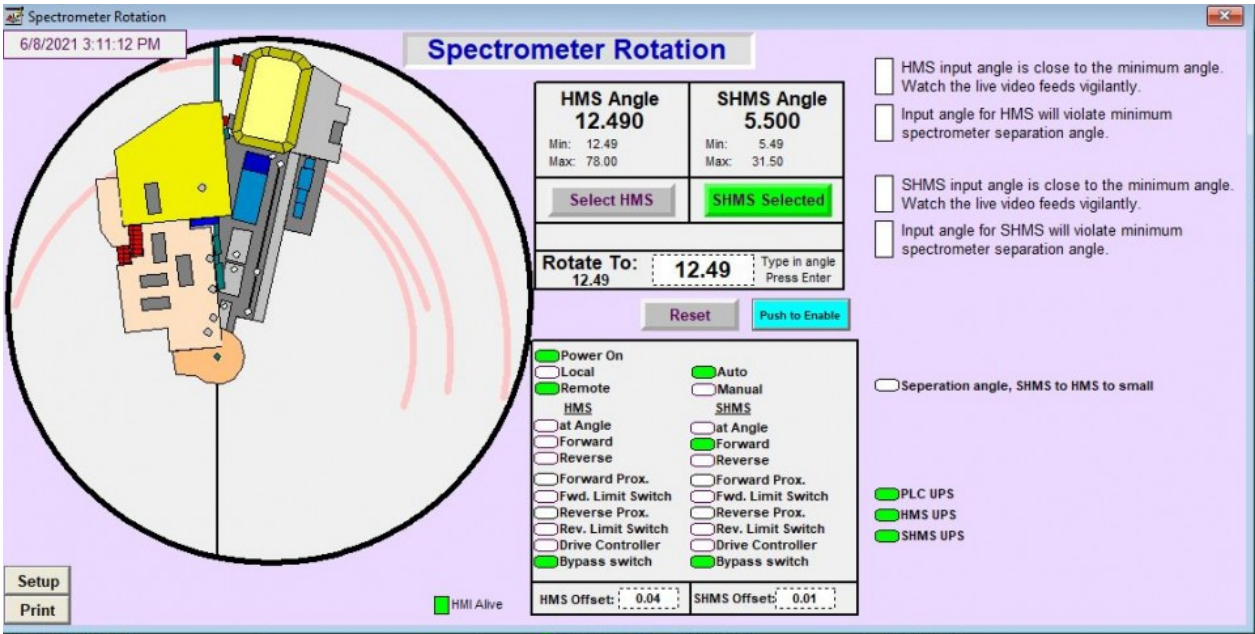
Floor limit switches blocks were mounted for both the SHMS (5.50) and HMS (12.49) at small angles.

Note:

1. These Angles can only be achieved by local (in hall) rotation and with the use of no less than four spotters. One at the pivot, one above HMS Q2, one at the back side of the HMS and one between the spectrometer downstream of the HMS Q2. This does not include the engineer responsible for the rotation controls.
2. Remote rotation will be restricted to be at least one degree from these limits and maybe more.

HMS Min separation Angle**SHMS Min Angle**

Separation angle screen shot



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