PSI

Test of Fast Wire Scanner (OAWM)

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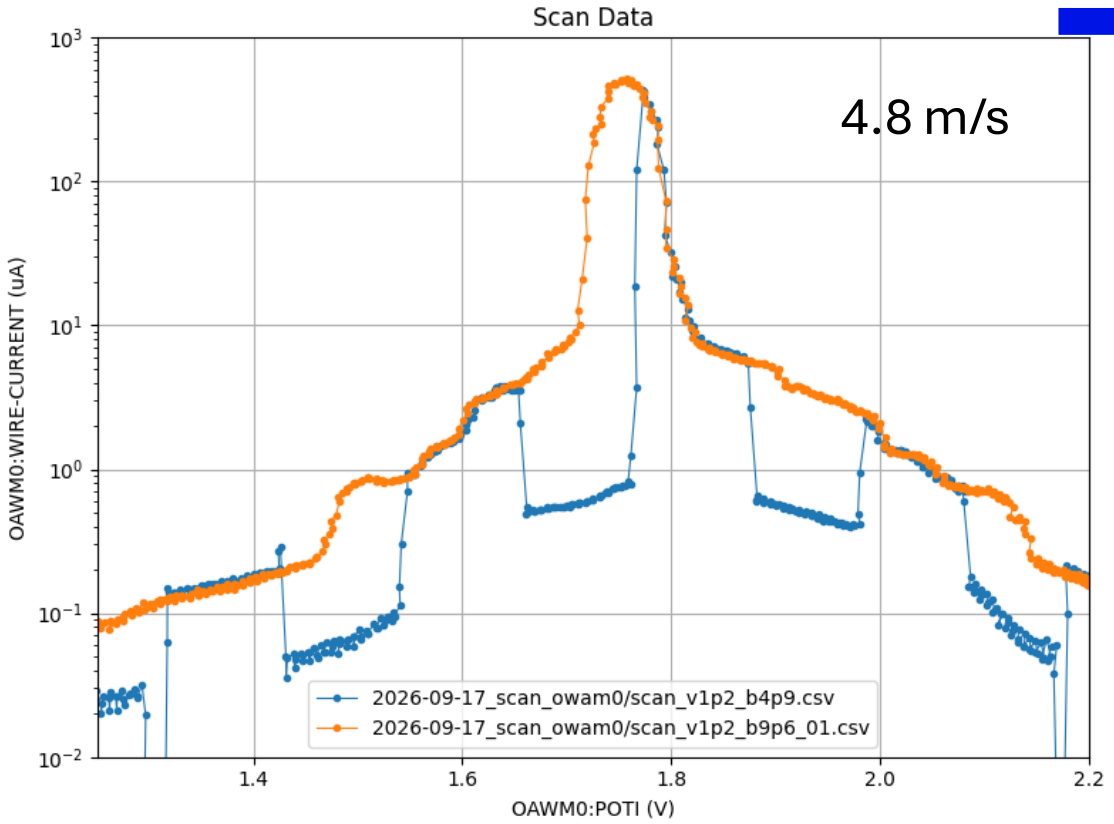
Overview

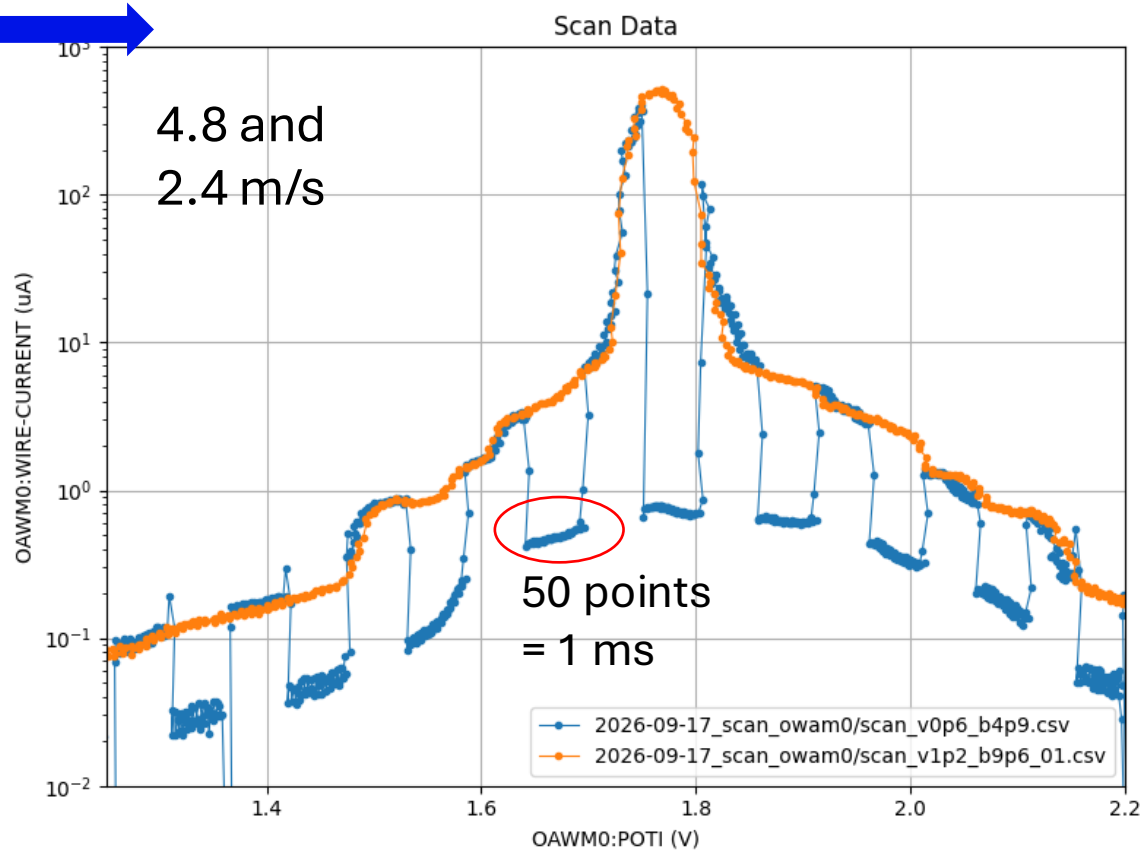
1. Two changes in hardware and firmware:
   - Acquisition frequency: 20 kHz->50 kHz
   - Potentiometer acquisition not using SoM-CAM channel but using CMC AIO mezzanine card.
2. Check profile reconstruction for various beam intensities (AVKI duty factor)
3. and various scanner speeds (k=1.2 and 0.6).

Measurements - examples

AVKI at Duty Factors 100% and 50%

Speed reduction by factor 2





Thoughts

1. Noise on poti signal – needs to be looked at.
2. We need an algorithm to reduce speed and select measurements according duty factors.
3. Currently we can operate at 1.6 m/s minimum.
   It is software limit (lookup table size), and it can be overcome.
4. To scan beams with all possible duty factors we need very low speeds.
5. Control room reports using duty factors of 1% and less, we need a clear requirement from them.
6. Synchronization with AVKI maybe also required.
7. How is it done in legacy scanners?