

AWAKE Week 13 (29 March - 1 April 2021)

WEEK SUMMARY: Second of 2 weeks of electron beam. Successful propagation of electron bunch in Rb plasma, measured deceleration/acceleration and charge loss.

- **New Data Acquisition system:** tested new DAQ system from BI on one digital camera (BTV42).
- **TAG41 Accesses:** RP measurements of x-rays next to active Klystron
- **Vapor source:** warmed up to 200 C, aligned Rb interferometer for Rb density measurement, filled with Rb gas. Cooled down at the end of experiments.
- **Laser:** aligned IR low-power mode to prepare for ionization, re-installed pickoff measurement (camera and energy meter) after the vapor source, to measure ionization of Rb. Test of Rb ionization: plasma confirmed by laser pickoff measurements. Realigned IR each morning before ionization.
- **Electron propagation in plasma, measured on spectrometer:** Test of electron beam through plasma (150 pC), measured on spectrometer. Energy loss/gain observed in transport, as expected. Full set of measurements at 150 and 300 pC electron beam charge.
- **Downstream streak camera:** measured electron bunch length for both charge setups. Now comfortable using this daily.

Next week: Access in preparation of laser ionization measurements.

- Giovanni Zevi Della Porta