



Science & Technology  
Facilities Council

# KURRI-FFAG

# Experiment in March 2019

JB. Lagrange

# Experiments

- Repeat of Sept 2018 experiment for confirmation
    - Tomography
    - RF patterns
    - Measurement of rate of H<sup>-</sup> converted in protons
  - RF voltage monitoring
  - H<sup>-</sup> stripping study
  - Extraction study
  - Tune measurement, COD measurement
- 2 JB Lagrange - KURNS meeting 07/03/19

# People

- On site:
  - Ishi san's group,
  - Craig,
- Remotely:
  - RAL group
  - Suzie

# Linac beam characteristics & H- conversion rate

- Energy (TOF measurement, not conclusive in Sept 2018)
- Momentum spread (reasonable value measured in Sept 2018)
- Size and Position at injection (vary from day to day in Sept 2018)
- Conversion rate of H- stripping measurement with full aperture BPM.

# RF study

- Constant  $k$  vs. Variable  $k$  confirmation (more data)
- Measure the threshold energy at the boundary of the foil. (simulations from Uesugi can not be cleared by measurement)
- different RF patterns made by Laura
- Monitoring of the RF voltage during the experiment to confirm the tomography analysis from David.

# Other experiments

- H- stripping experiment with different thicknesses (Brown)
  - Study in the linac?
- BPM at extraction (Kuriyama)
  - Optimisation of extraction scheme?
- Tune measurement, COD measurement with Patches
  - Machine parameters different than in 2015

# Schedule

Mon 18	Tue 19	Wed 20	Thu 21	Fri 22	Sat 23	Sun 24	Mon 25	Tue 26	Wed 27	Thu 28	Fri 29	Sat 30	Sun 31	Mon 1	Tue 2	Wed 3	Thu 4	Fri 5
Linac beam Characteristics & H- rate conversion			<p style="text-align: center;">RF study:</p> <ul style="list-style-type: none"> <li>- Const. k/variable k</li> <li>- Laura's RF patterns</li> <li>- Threshold energy</li> </ul> (RF voltage monitored)				<ul style="list-style-type: none"> <li>1 - buffer time in case of problem with RF study</li> <li>2 - H- stripping experiment (Brown)</li> <li>3 - BPM at extraction (Kuriyama)</li> <li>4 - Tune measurement, COD measurement (Patches)</li> </ul>											