

Analysis of MICE Step IV Equipment following end of Data- Taking

Author	Changes	Date
C. Rogers	Initial draft	2017-12-06

Introduction

Following the end of data taking the collaboration seeks to make a detailed measurement of the MICE apparatus as installed in the MICE hall. This measurement will support analysis of the MICE data.

Measurements

The following measurements will be made:

- The longitudinal position, on-axis thickness and composition of all windows in the beamline will be measured. Thickness should be measured to 100 micron precision. Visible misalignments should be measured and reported.
- The longitudinal position of the upstream tracker station will be measured (precision 100 micron). A visual inspection of the trackers will be made indicating any physical damage/etc.
- The longitudinal position and radius of any apertures will be measured, including the length of the aperture and composition of the material used to make the aperture. If the aperture is not cylindrically symmetric, then an indicative geometry (precision 1 mm) of the aperture will be measured.
- The position of the hall probes will be measured. A visual inspection of the hall probes will be made indicating any physical damage/etc.
- The position of SSU and SSD survey artefacts should be measured. **Do we want any measurements on the outside of SSU and SSD e.g. measure end flange position relative to the survey points?**
- The position of the decay solenoid, beamline quadrupole magnets Q4-9 and D2 should be surveyed. The density and thickness of the proton absorber plastic slabs will be measured. It will be checked that the control software is tied in to the correct proton absorber slabs. **Do**

we want survey of target, Q1-3 and D1? Target? E.g. for target studies?

All measurements should be made relative to the hall survey network.

Deliverables

The measurements should be described in one or more MICE notes.