	Week 1							Week 2							Week 3							Week 4							Week 5							Week 6			
Tasks (details given)	Monday 03.08.2020	Tuesday 04.08.2020	Wednesday 05.08.2020	Thursday 06.08.2020	Friday 07.08.2020	Saturday 08.08.2020	Sunday 09.08.2020	Monday 10.08.2020	Tuesday 11.08.2020	Wednesday 12.08.2020	Thursday 13.08.2020	Friday 14.08.2020	Saturday 15.08.2020	Sunday 16.08.2020	Monday 17.08.2020	Tuesday 18.08.2020	Wednesday 19.08.2020	Thursday 20.08.2020	Friday 21.08.2020	Saturday 22.08.2020	Sunday 23.08.2020	Monday 24.08.2020	Tuesday 25.08.2020	Wednesday 26.08.2020	Thursday 27.08.2020	Friday 28.08.2020	Saturday 29.08.2020	Sunday 30.08.2020	Monday 31.08.2020	Tuesday 01.09.2020	Wednesday 02.09.2020	Thursday 03.09.2020	Friday 04.09.2020	Saturday 05.09.2020	Sunday 06.09.2020	Monday 07.09.2020	Tuesday 08.09.2020	Wednesday 09.09.2020	Thursday 10.09.2020

Tasks (details given):

Installation of the chopper. The chopper is placed in the casemate and aligned to the beamline. **Assembly of the cubes in the pit.** Alignment of cubes with respect to the beamline (laser to position cubes accurately, height adjustable with cube feet). **Install faxion coil. Install the SENSEYS fluxgates with supports. Install the vacuum chambers with electrodes inside. Install SF, guiding coils, and aparatures.** Requires crane use.

Setup of the electrodes, pre assembled with grounding connections added (connect up ground ring and ground electrodes to BNC feedthrough, check electrical connection. Alignment of the electrodes with respect to the beamline.) Requires crane use.

Setup of the vacuum chambers (includes adding tubing for the gas handling system, pump system, gauges, and HV feedthrough). **Install HV feedthrough,** check electrical connection to the HV electrode. Requires crane use.

Installation of the mu-metal (hole cover plates removed, plates craned in and added to the top first, then bottom, then sides. Connections for gas handling, pumping, HV feedthrough, and gauges added before adding the top hat mu-metal pieces.) Requires crane use.

Begin pump down of system (for HV use, goal of E-6/E-5 mbar)

Installation of equipment (racks, servers, power supplies, chopper, monitoring equipment, gas handling, analyzer, detector. Attach equipment to various devices.)

Systematic equipment check (device by device, checking everything is attached correctly and will readout data correctly in MIDAS.)

Chopper characterization (safely check with neutron flux, chopper in open/closed position, checks if white beam can be used or if shades has to be added, **detector opeartion check**. It will take a day for safely check. Measurement opening window of the chopper from -5 to +5 degrees, steps 0.02 degrees. Perform ToF spectrum measurement at frequencies 4 to 16 Hz, steps of 2/4 Hz, find the frequency before frame overlap. Measure phase distribution between the spin flippers, determine the optimal pico settings.) — *Radiation safely check*

Detector check (If detector does not operate as at BOA then HV/CPiX scan maybe required. Also perform measurement with pulsed beam to make sure ToF's are correct. CPiX scan OPTIONAL!)

Detector stability (perform 24 hour measurement with pulsed beam, observe ToF spectrum only). — *overnight run*

Beamspot characterisation (define the position of the mirrors in the analyzer on the detector, maybe need to move the detector to get better definition, guide field coils may need adjustment).

Rabi technique (measurement with pulsed beam, scan rough frequency, then fine frequency scan, only one SF at a time)

Ramsey technique (compute average of the frequency and fine scan around it for both SF lock. Then back to Rabi and check the amplitude for both SF with this freq. (should not change the amplitude), perform classic Ramsey.)

vxE measurement (magnetic field direction is set along the transversal axis to 100 uT. All SF are set for sinusoidal field with amplitude/frequency the same. After, perform Ramsey measurement with no modulation, HV applied at various steps to observe the effect)

Scan of the modulated signal (rough scan parameters of the modulated waveform, changing; t0 and t1. This needs to be done for both SF independently. Then fine scan to optimise the modulation.)

Magnetic field scan using Ramsey technique (vary the set magnetic field over several Ramsey measurements, systematic check.) OPTIONAL!

Systematics check (if time avalaible, HV conditioning to be performed)

Stability check (dummy run an EDM measurement over the period of 24 hours to check stability of equipment, no HV) — *overnight run*

EDM measurement (shift plan begins, goal sensitivity < 3 E 24 ecm, requires at minimum 11 days at constant 1 MHz neutron rate and 100 kV/cm (operating at ~ 9.8 E -24 per day), added extra 6 days to minimum to take into account dead time) — **EDM measurement**

Begin axion setup (replacement of shades on the chopper, requires cooldown to access casemate. Equipment check during casemate radiation cooldown period) — **Radiation cooldown of casemate**

Faxion measurement (waveform generator is used to create the faxion signal)

Axion measurement (one day each for even polarity of the HV and one with no HV.)

Chopper cooldown (required before removal)

Beamtime complete (disassembly of the experiment)

Key

Color	
Blue	Mechanical
Orange	Data taking
Green	Characterisation/systematic checks
Red	Morning to afternoon session
Red	Afternoon to evening session

Friday	Saturday	Sunday	Week 7 Monday	Tuesday	Wednesday
11.09.2020	12.09.2020	13.09.2020	14.09.2020	15.09.2020	16.09.2020
	Axion measurement				
					Radiation co casem