WP5

Year 2

1) List of R&D requirements to enable development of monitors and dosimetry during years 3-5
2) Endstations designed for integration with beam line, monitoring systems and acoustic imaging (WP4) with automated stages for cell irradiations
3) Consultation to establish requirements from biological “user” group to study cellular level changes
4) Commissioned beamline for years 3-5 experiments

Year 5

1) Layout of Lhara beam delivery system with BPMs, magnets, dosimetry equipment locations identified and technology developed
2) Technology developed and tested capable of monitoring Lhara beams on a pulse-by-pulse basis in real time with a plan for integration into the accelerator feedback
3) Demonstrate experiments using the end stations including cells and dose monitoring from WP4
4) Cell imaging capabilities identified and room designed to incorporate these
5) UoB beam line development to enable a vertical beam line with chopped/pulsed beams
6) Identify Phase III requirements and technical challenges.

Figure 2: BPM pixel detector for beam profile with 39-pads (bottom) and single-pad (top).