



# Progress Report: ARDENT

ESR 15 Chris Cassell

University of Wollongong



# Table of Contents

- ▶ Attended conferences
- ▶ Attended workshops
- ▶ Experimental Campaigns
- ▶ Details of Experiments

# Attended Conferences

6-7 December 2012: Mini- Micro- and Nano-Dosimetry conference, Wollongong, Australia

- An overview of current developments in MMND

3-7 June 2013: NEUDOS 12, Aix en Provence, France

- An overview of current status in many aspects of Neutron and Ion dosimetry

Planned conferences:

22 October – 2 November: IEEE 2013, Seoul, Korea

- I plan to present results of measurements, currently being analysed

# Attended Workshops

8-9 December, 2012: IPCT Workshop, Wollongong, Australia

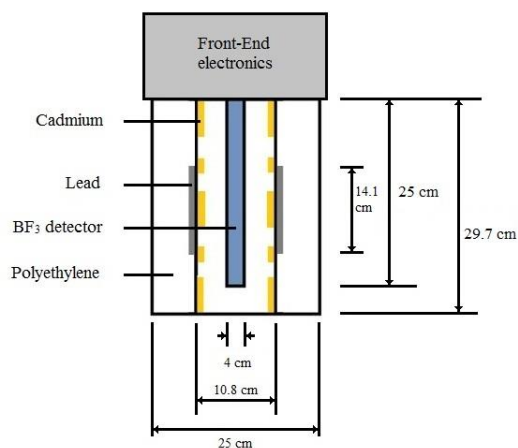
- Workshop dealing with prostate cancer treatment modalities, including case studies of patients

1-8 February, 2013: ISOTDAQ workshop, Thessaloniki, Greece

- Covered many aspects of Trigger and data acquisition
- Half lectures, half laboratory exercises on the given topics, such as networking

# Experimental Campaigns

- ▶ Measurements at Proton Synchrotron at CERN
- ▶ Measurements at the HiRadMat facility at CERN
- ▶ Measurements around SwissFEL at PSI, Switzerland

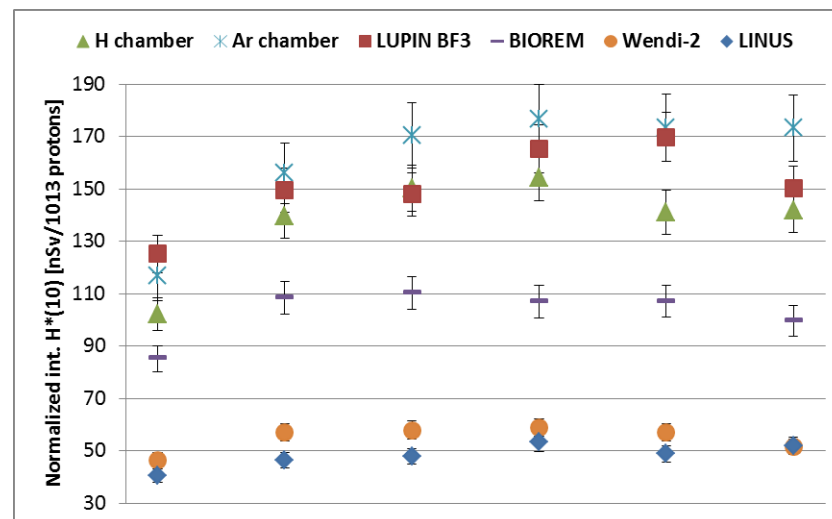


# Details: PS measurements

- ▶ Measurements conducted at 3 positions around the PS facility at CERN
- ▶ For one of these positions (Septum 16), I was personally involved in the data analysis, however I wasn't able to participate in the measurements themselves
- ▶ The results obtained were presented at the Neudos Conference in Aix en Provence, France (Oral presentation)

# Details: PS Measurements

Pictured is an example from the PS measurements, showing the different detectors used in each of the 6 positions



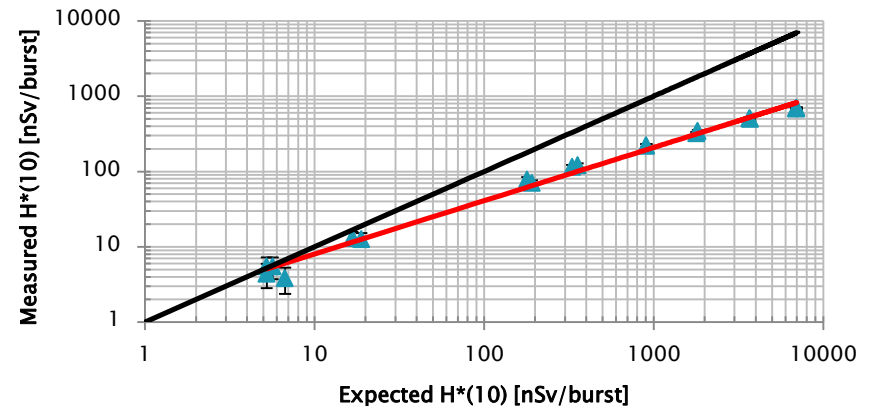
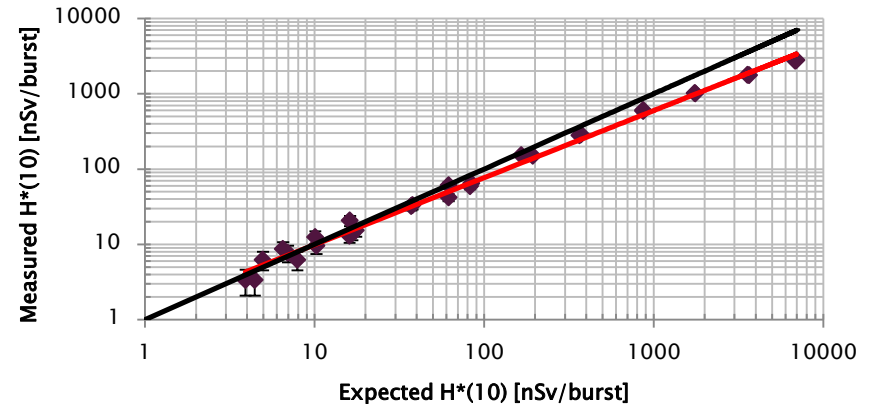
# Details: HiRadMat Measurements

- ▶ I was able to briefly participate in taking measurements at HiRadMat
- ▶ HiRadMat is a new facility at CERN, for testing the effects of High intensity Radiation on Materials
- ▶ I was also involved in the Data analysis, and helped to write a paper based on these measurements
- ▶ This paper will be submitted to Radiation Measurements in the near future



# Details: HiRadMat Measurements

Example plots of detector response for LUPIN (top) and Biorem (bottom). It can be seen that the LUPIN provides response much closer to ideal than the commercial detector.



# Details: PSI Measurement

- ▶ I was able to take a very active role in this campaign
- ▶ Took measurements with LUPIN  $^3\text{He}$  and  $\text{BF}_3$  versions, as well as BSS
- ▶ Results still being analysed
- ▶ Will hopefully result in presentation at IEEE in Korea

Thanks for your attention!

