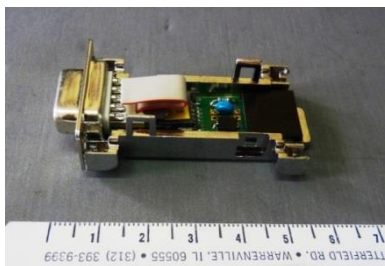




## Instantaneous dose-rate monitor for GIF++ Facility – INRNE, Sofia

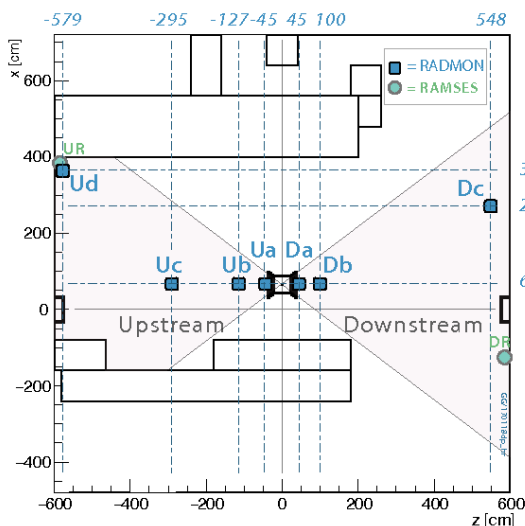
1. History – AIDA : Integrated Dose Monitor – developed on the base of the RADMON for GIF++



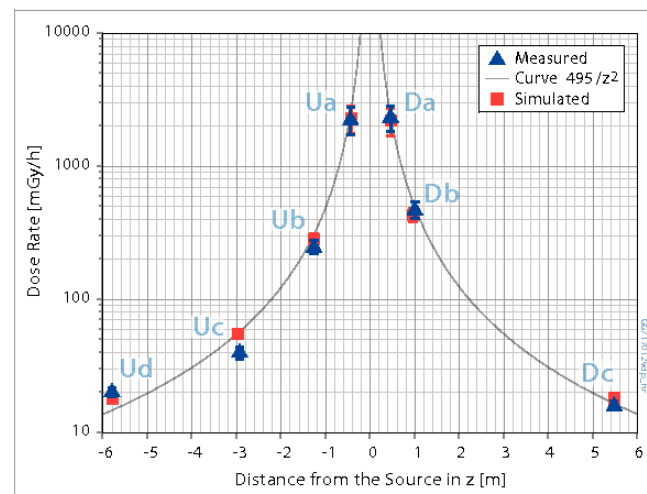
RADMON for Gif++



Control Board for 12 RADMON's



RADMON's measurement positions

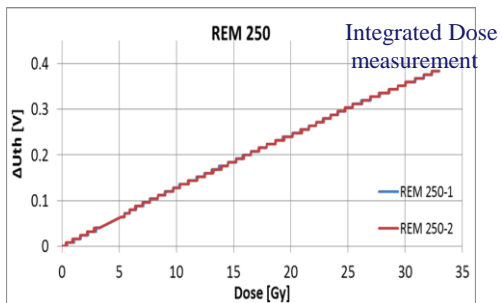


Measured and simulated data

The measurement values agree to 12 % with the simulations – within the expected uncertainties.

About half of the 662 keV photons loose energy mostly by Cherenkov scattering (lead of the filters, floor steel, concrete of walls, roof, different materials for irradiation).

Conclusion – In addition to the Integrated Dose measurement - Instantaneous dose-rate monitor for GIF++ is needed

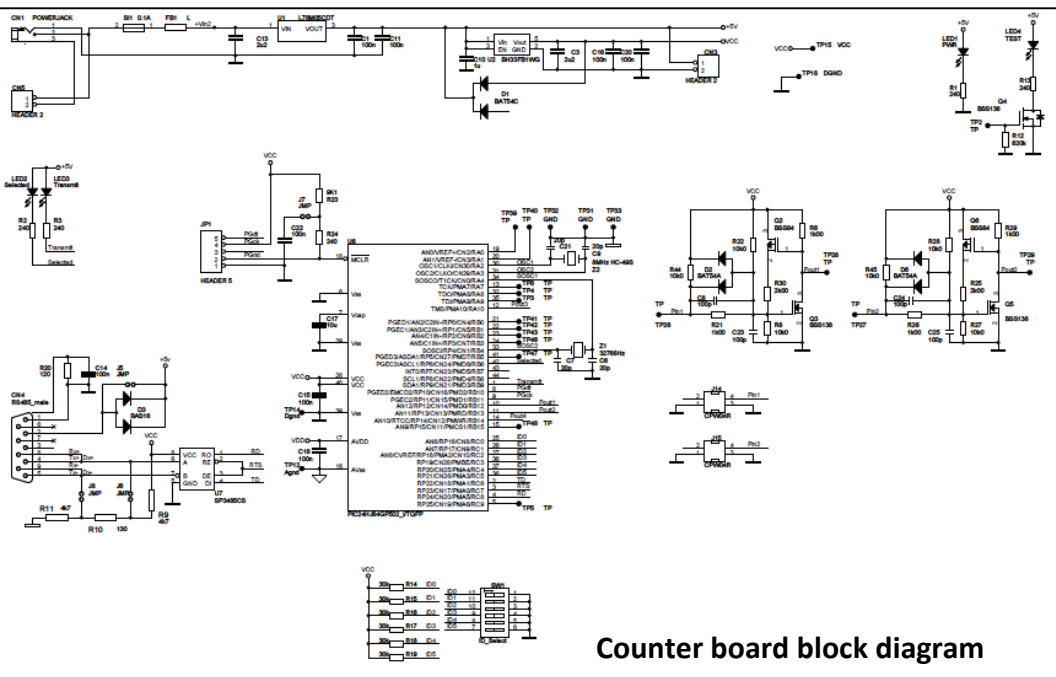




## 2. Instantaneous dose-rate monitor for GIF++ - AIDA2020

The first version of the 2 – channel counter board designed at INRNE, Sofia was tested at GIF++ - June 2016.

Final design – 8-channel dose rate monitoring board design and test – 2017/2018



Counter board block diagram

### Berthold GM Technical Data

Dose Rate Range – 500nSv/h – 3mSv/h

Energy Range - 65 keV – 1,3 MeV (+/-40%)

Intrinsic Background – approx. 0.015 cps

Calibration Factor – 7,05  $\mu$ Sv/h per cps

