Detectors

Electronics

PMT

Scintillator

γ-ray

(För <the electronics> sa Edvin den labb assistenten att den heter elektronik. Jag vet inte om det kan översättas till electronics)

The detectors consist three parts as the figure shows above.

There are two different detectors. One has thicker scintillator. The scintillator is around 10cm and the opening of it is around 2cm. The other has thinner scintillator. The scintillator there is around 2cm and the opening of it is just a thin foil.

Scintillator:

* The radiation rays come in here.
* Three types of reactions happens here.
  1. Compton scattering
  2. Photoelectric effect - photoelectric absorption
  3. Pair production (not important today since the energy level of the radiation here is quite low)
* When the γ-ray meets the scintillator it creates electrons which will excite the atoms in the later components. It happens in following steps:
  1. First the ray knocks of electrons.
  2. The electrons excite material.
  3. The material gets de-excited and lets light – photons come out.

Photomultiplier tube

Look at the pictures…