

There are several researches to develop the dose monitors at cancer therapies with charged particle beams. There are few studies got good results. We propose a new dose monitor to measure a pair creation reaction. Charged particles create short life nuclei. Some nuclei emit high energy gamma-rays such as more than 10 MeV. The high energy gamma-rays create electron positron pairs in the detector. A trajectory of a charged particle is easily measured. The position and time of the pair creation can be measured by our detector. we can considerer that the meeting point of two lines is high dose point. The density of meeting point is proportional to the density of amount of dose. Recently we developed new gamma-ray detectors. This detector is consisted of scintillator plates, wavelength sifting fibers. GEANT4 simulation shows that this detector has excellent performance for 20 MeV gamma-rays. In this presentation, we will shows the concept of our dose monitor and results of GEANT4 simulations. We are constructing the prototype detectors and we will perform the test beam experiment in this autumn.