Radiation test of poly-switch for ATLAS-TGC readout

O. Sasaki, T. Miura (KEK) and Y. Sugaya (Osaka-U)

The radiation test of the poly-switches has been carried out at the neutrino beam line of KEK-PS (T568). The switches (GRE300 and SMD1812P150TS) expected to have hardness to fast neutrons.

The poly-switch works like a fuse of the readout electronics devices. When an over current occurs, the current is cut off. After while, the connection will recovered.

We set the poly-switches on the flower close to the horn magnet of the neutrino beam line. Neutrons are produced by a proton beam from a production target. The yield of neutrons has been known by a radio chemical method. The 12-GeV proton beams extracted to the production target in a period of Oct. 1st to Oct. 12th. The beam intensity was measured by a current transformer by K2K group and was 1.04X10^18 proton in total. We set poly-switch at five points (Fig. 1). There is no problem on an operation of the poly-switch after the irradiation.

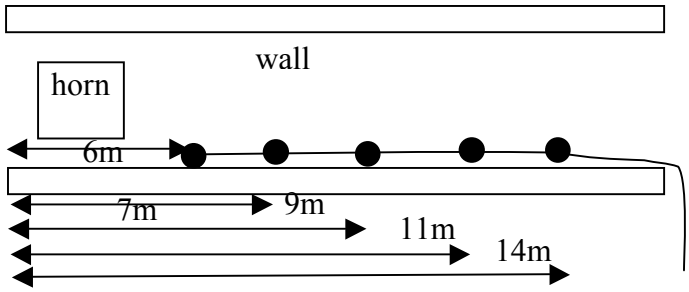

Fig. 1. Top view of the experimental set up at the area close the horn in the neutrino beam line. The closed circle shows a bag of the poly-switches. They are connected to pull out after the irradiation.