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## The CHarged ANTIcounter for the NA62 experiment at CERN

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The NA62 experiment at CERN aims to measure with an error of 10% the decay fraction of the very rare process  $\pi^+ \rightarrow \mu^+ \nu_\mu$ , studying the decay in flight of the contained in an intense secondary beam of positive particles of 75 GeV / c momentum, produced using the proton beam of the CERN SPS. A particularly insidious source of background is due to events produced by the inelastic interactions of the beam with the three measurement stations - in particular the third (GTK3) - of the beam spectrometer (GTK), which are made of silicon pixel detectors. The spectrometer is installed in the vacuum at the entrance of the vacuum pipe in which is placed the fiducial decay region. A positive pion, produced in one of these events and detected by the apparatus of NA62 so that its origin is erroneously reconstructed in the fiducial region, simulates an event signal. To reject this type of background, reducing it to an acceptable level, a veto detector for charged particles - CHANTI (Charged Anti-Counter) - was designed and built using bars, with triangular cross-section, of plastic scintillator read by Silicon PhotoMultiplier (SiPM). The detector is placed in vacuum immediately after GTK3 so that, without interfering with the beam, it can intercept, with efficiency  $\sim 1$  and time resolution of  $\sim 1$  ns, traces of charged particles produced in GTK3 at angles ranging from about 50 mrad to little more than a rad, with respect to the beam direction.

The front-end electronic boards allow fast amplification (25 X), individual channel fine bias setting with O(mV) resolution and 0.1% stability and current measurement for each SiPM, in order to monitor any possible degradation.

The first data have been collected between October and December 2014 at CERN. The results given by the analysis of the data collected will be shown. The detector time resolution is well in line with the specifications.

### Collaboration

NA62 Naples Team and LNF electronic service

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