

## The upgrade of the KLOE detector: KLOE2

*Friday, 12 October 2007 10:00 (20 minutes)*

The Kloe experimental activity is planned to continue at Dafne upgraded in luminosity and energy. The challenge is to improve sistematics at the level demanded by the increase of the integrated luminosity to 50 fb<sup>-1</sup>.

The vast physics program, concerning Ks, eta, kaon interferometry, charged kaon decays, is focused on events produced close to the interaction region, requiring an optimization of the detection of low momentum tracks coming from the IP and from the K<sup>+</sup> decays.

Besides a normal revision of some subsystem (Drift Chamber, FEE, DAQ, online/offline systems) the evolution of the apparatus foresees the upgrade of the scintillating fiber calorimeter and the insertions of two new devices: a gg tagger and an inner tracker (IT).

For the calorimeter the plan is to substitute the present photodetectors with higher granularity and/or higher QE devices. The gg tagger is devoted to detect small angles interactions with a technology of Si micro-strips and a plastic scintillator hodoscope.

The Inner Tracker exploits a novel technology of fully cylindrical GEM (Gas Electron Multiplier) detectors. It is composed by 5 concentric layers providing a point space 2-D measurement of the track. Each layer is a Triple-GEM chamber with cathode and anode made of thin polyimide foils, in order to reduce the material budget.

The result is an ultra-light and dead-zone free detector representing a new step in the development of tracking devices with gas detectors.

An overview of the performances of the Kloe2 apparatus will be given, and a report on the R&D status of the detector upgrades will be shown.

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