Homework n.4:

1) Describe a method to measure the tracking efficiency in the KLOE detector as a function of the momentum of the track. To this purpose let's assume to have already selected a large clean data sample of the following decay:

$\phi \rightarrow \pi^+\pi^-\pi^0$

2) Describe a method to measure the KLOE calorimeter

i) efficiency

ii) energy resolution

iii) time resolution

as a function of the photon energy in the range 20-200 MeV.

To this purpose let's assume to have already selected a large clean data sample of the following decays:

$\phi \rightarrow \pi^+\pi^-\pi^0$

$e^+e^- \rightarrow e^+e^- \gamma$

$\phi \rightarrow \pi^0\gamma$, $\pi^0 \rightarrow \gamma\gamma$