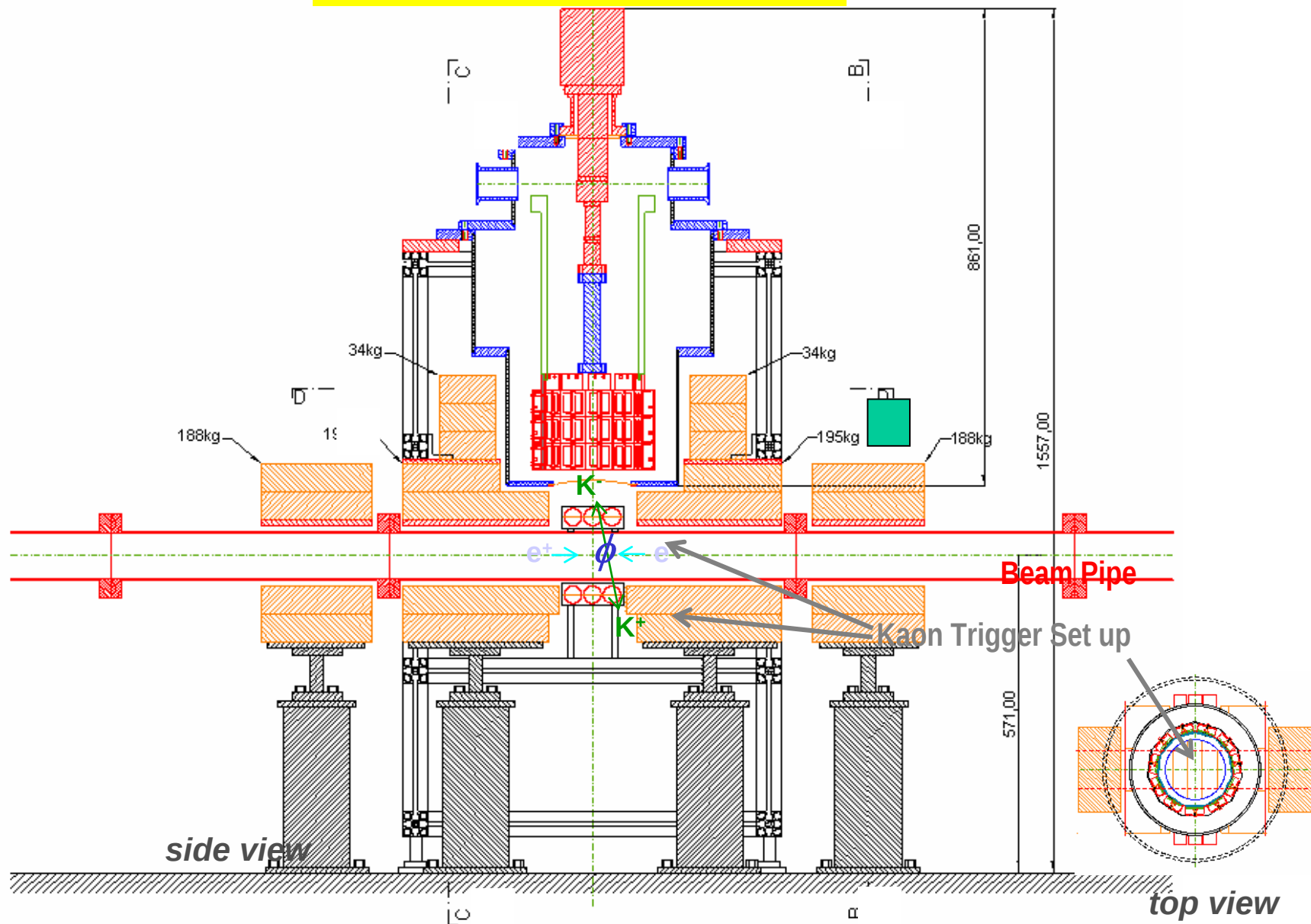
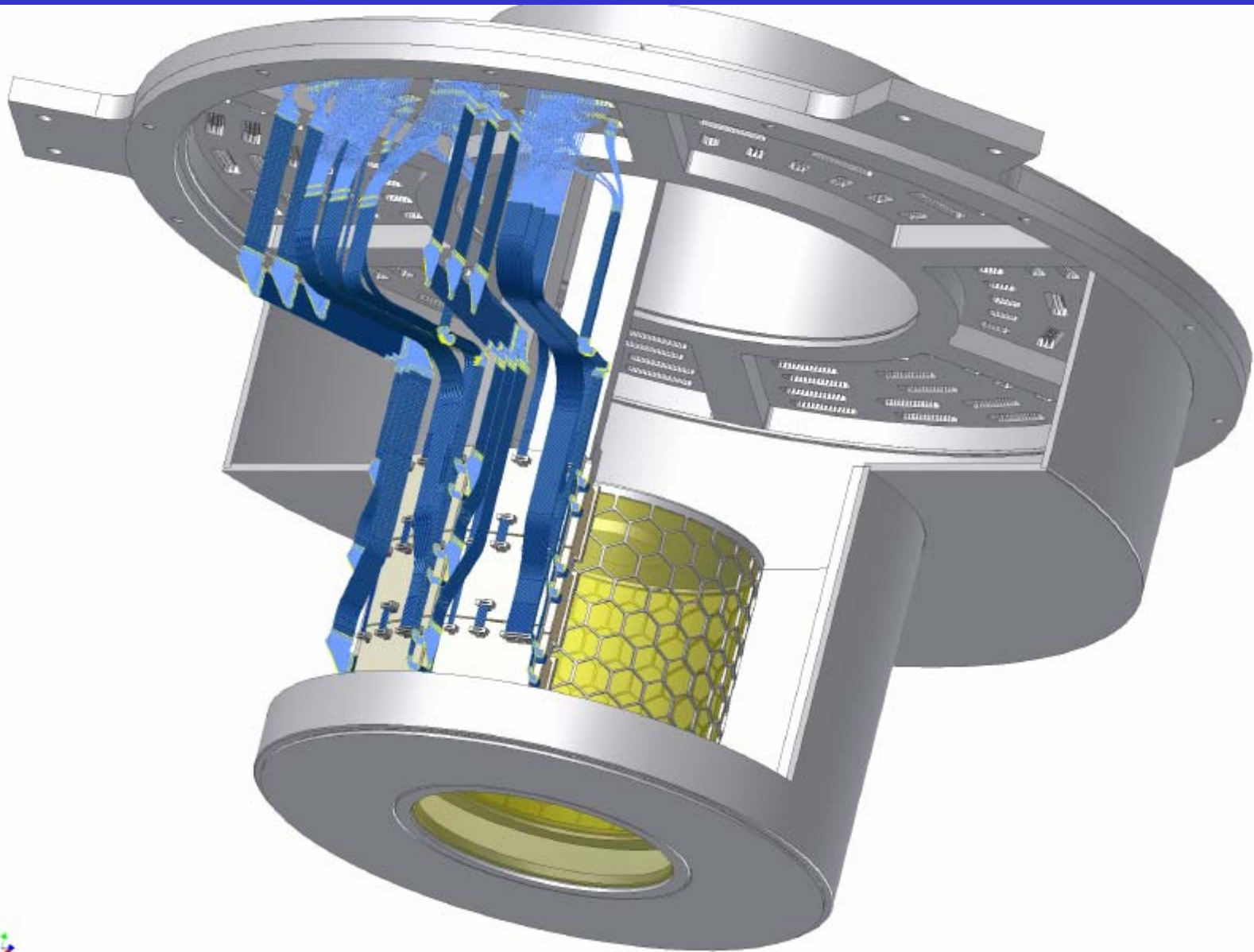


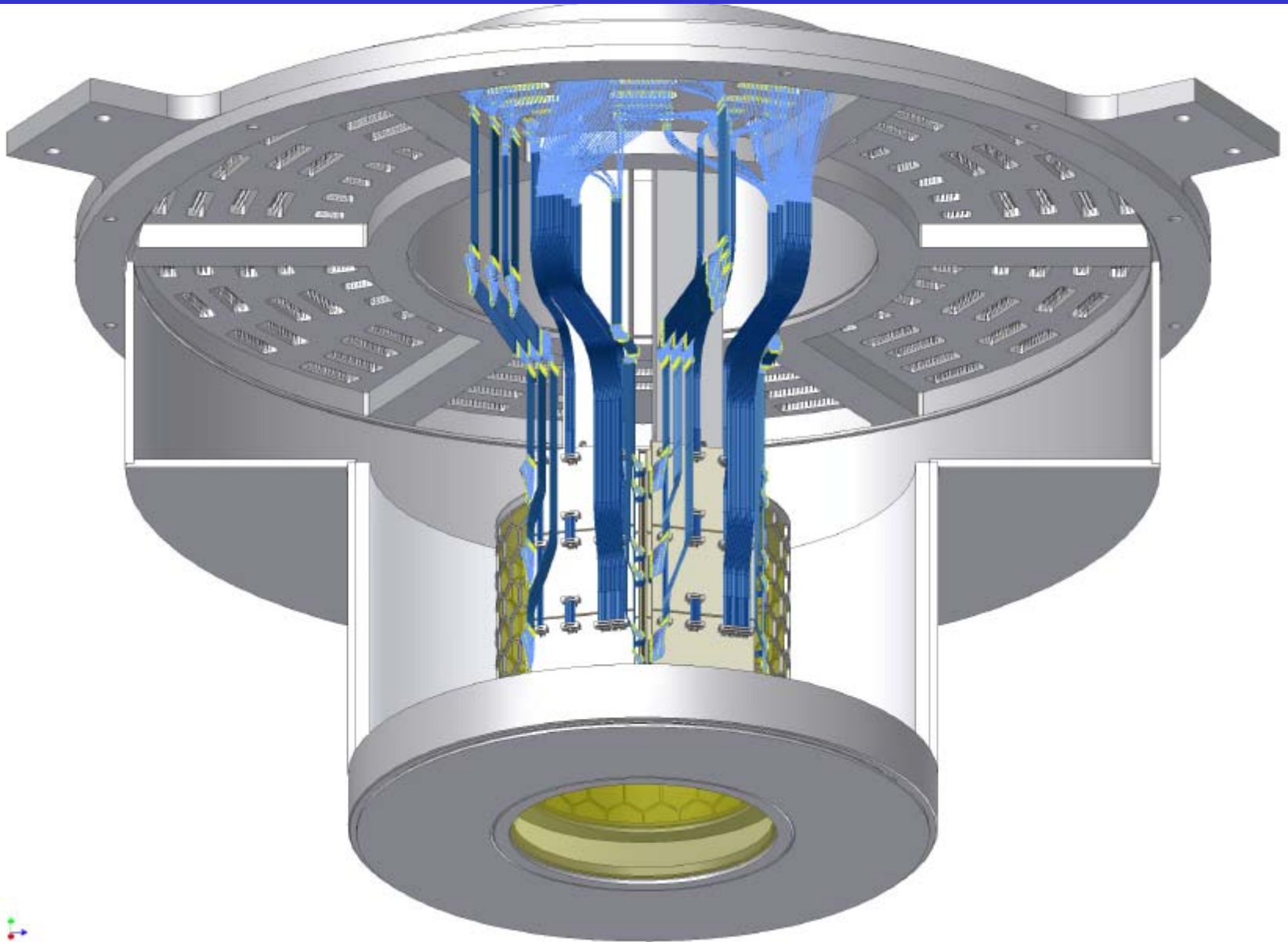
SIDDHARTA setup



The SIDDHARTA Setup



The SIDDHARTA Setup



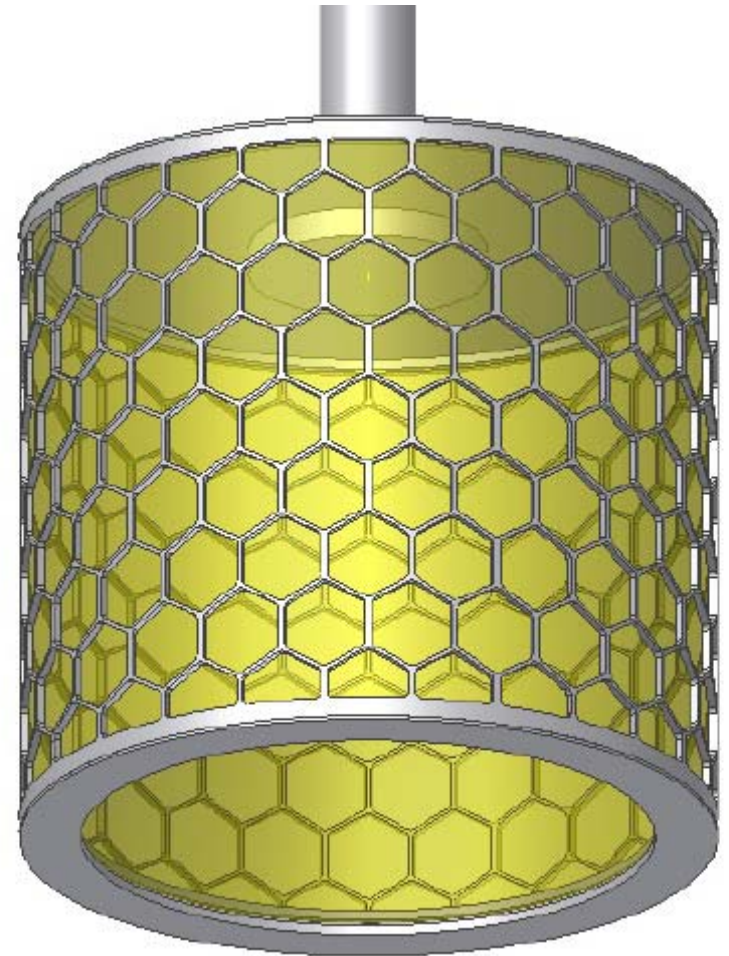
The Cryogenic Target Cell



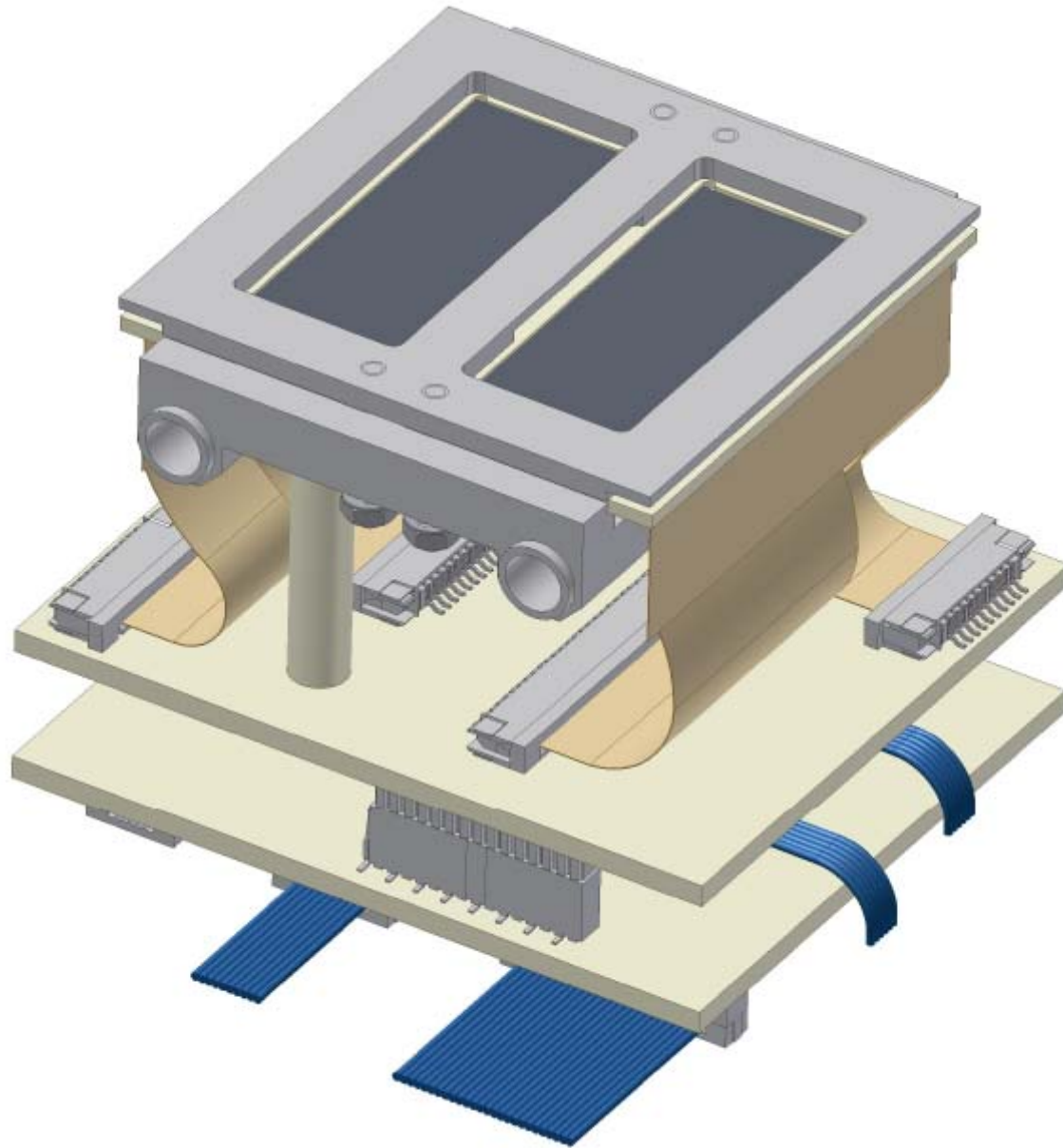
APD 2-stage cryo cooler
with 8 watt @ 20K

Cryogenic target cell
75 μm Kapton within
a pure aluminum grid
 $P_{\text{max.}} \sim 5 \text{ bar}$

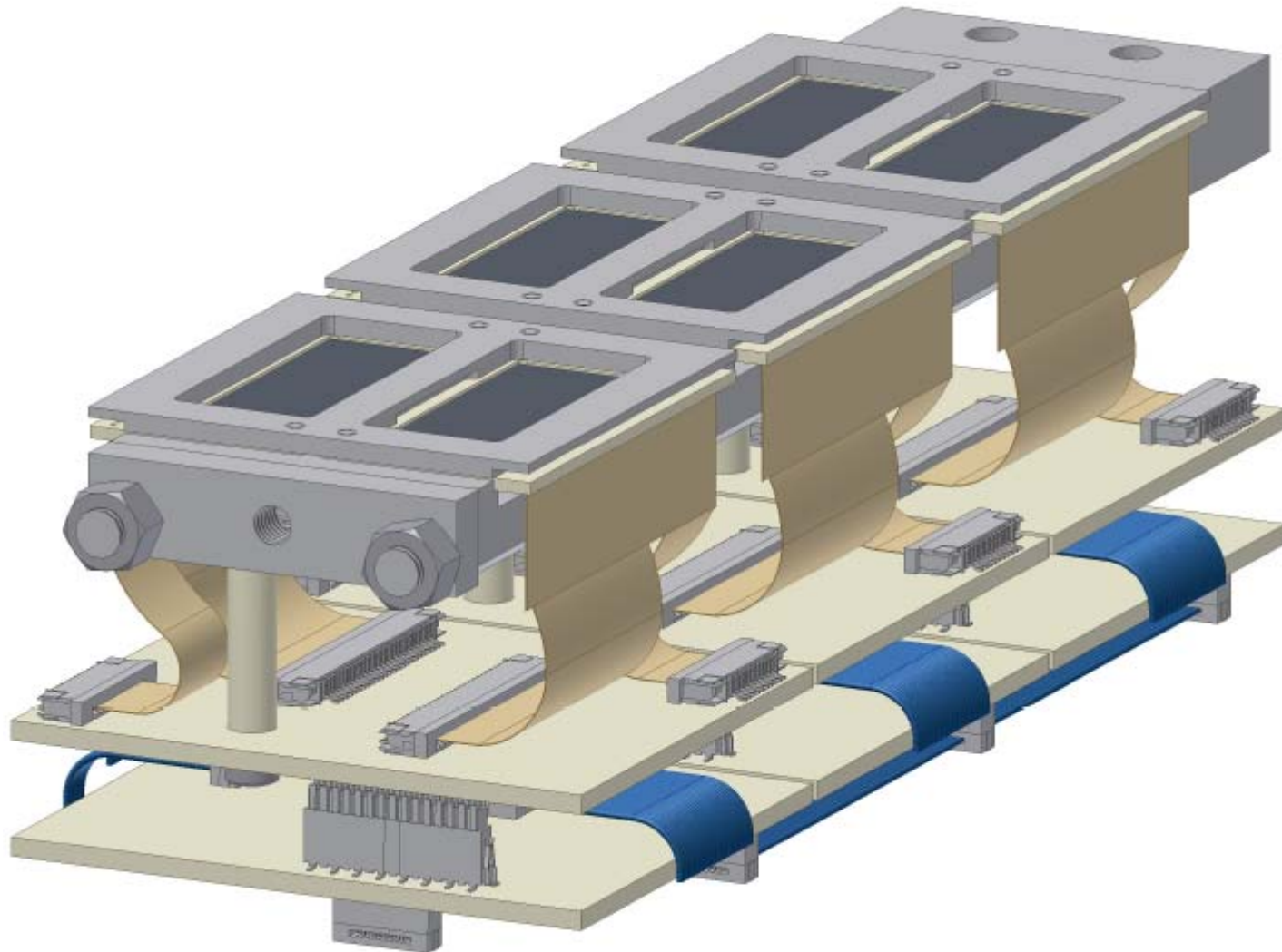
The Cryogenic Target Cell



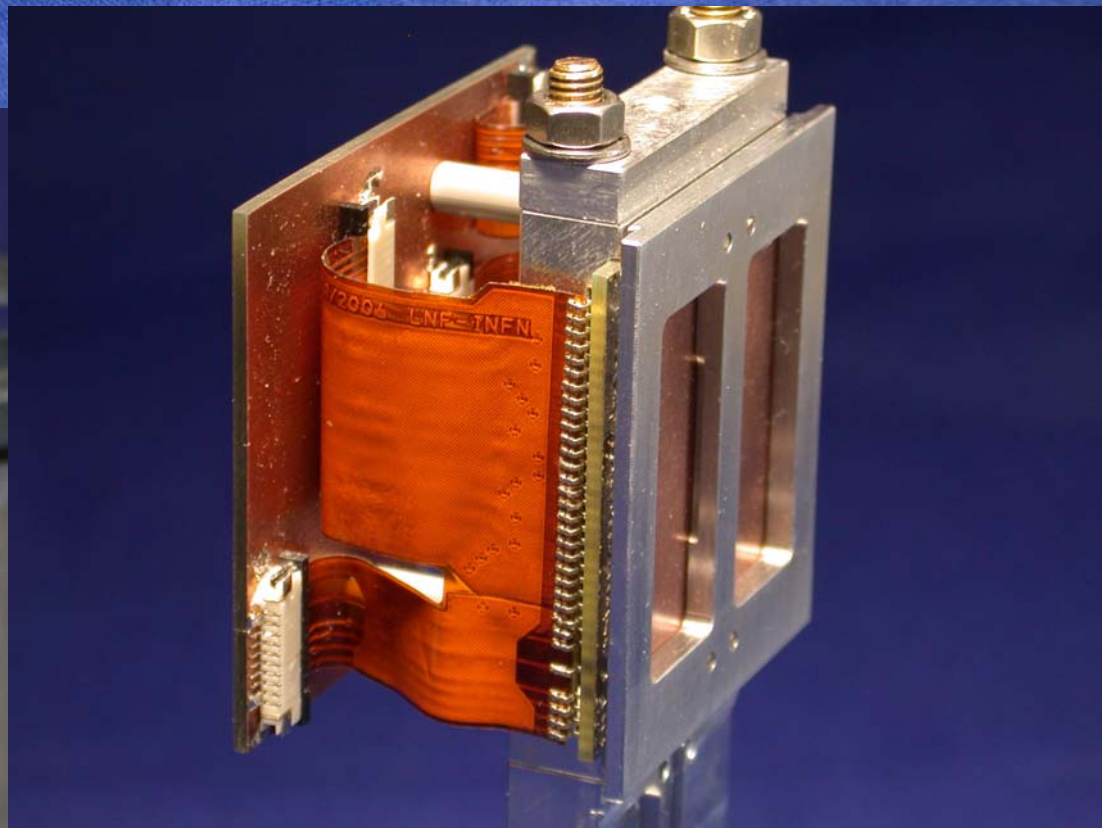
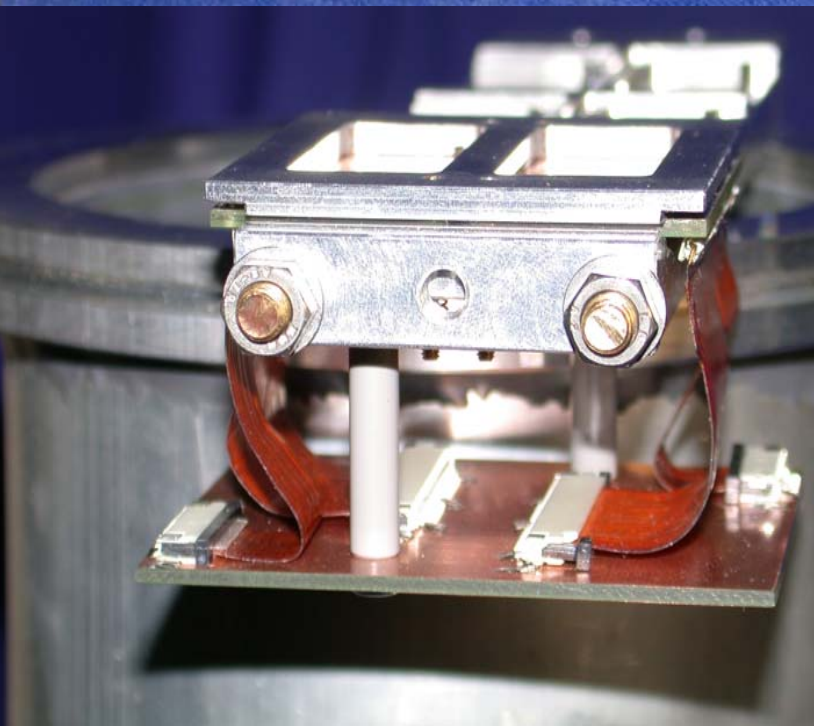
SDD - single unit



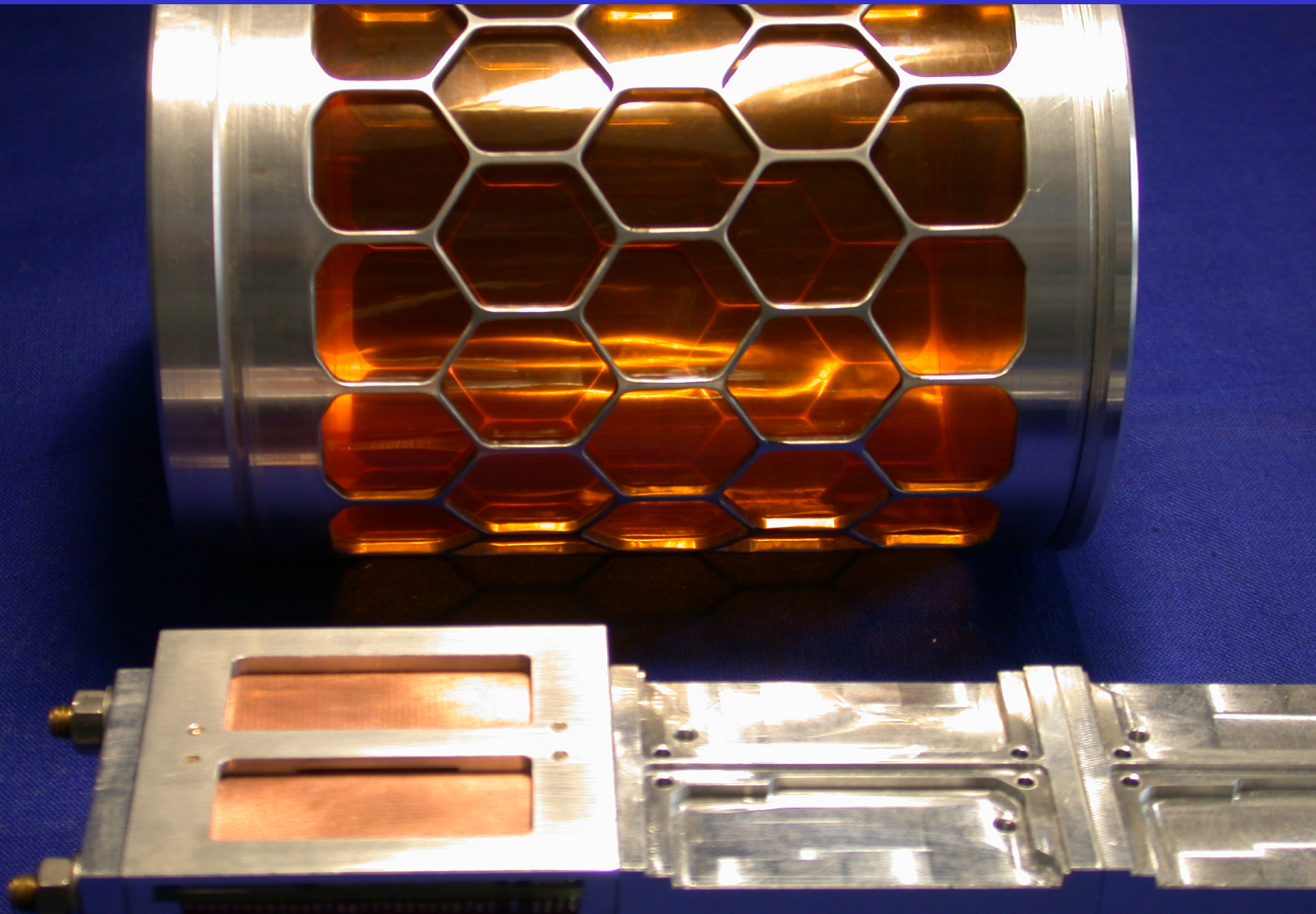
SDD-subunit



SDD-subunit

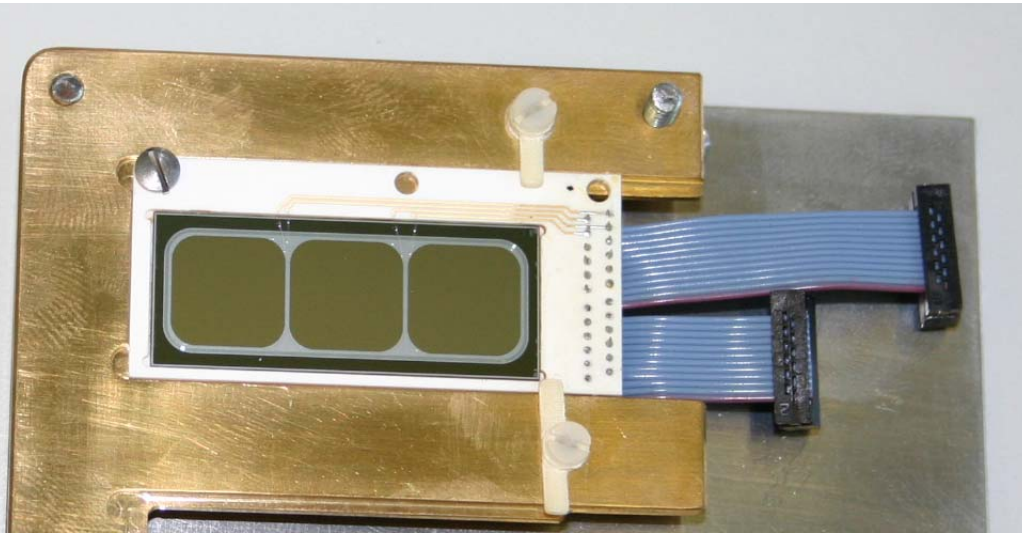


Target Cell and SDD-subunit



The SDDs for Siddharta

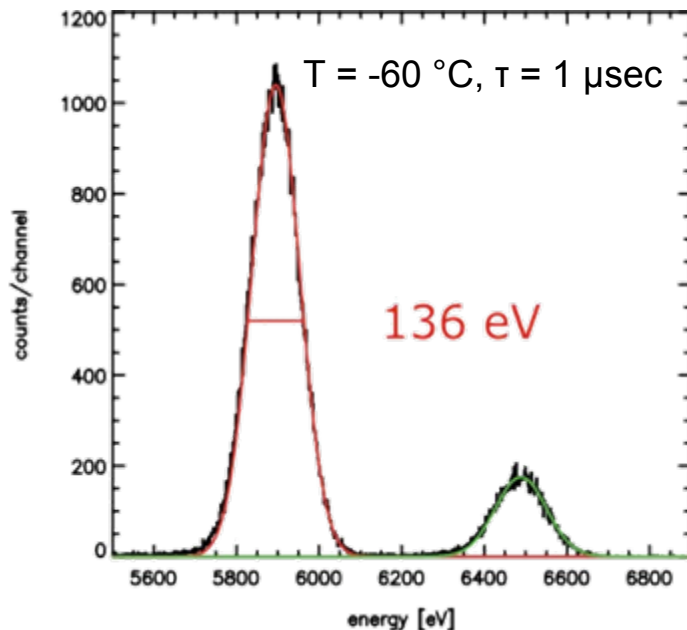
SDD unit, containing 3 chips of 1 cm² each



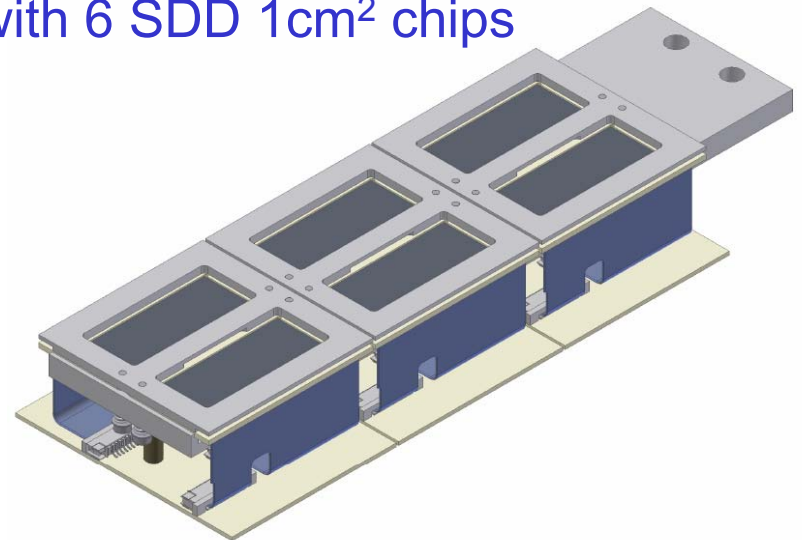
SDD status summer 2006:

- design & production of SDDs is complete and successful
- required amount of good chips has been qualified
- chips ready for mounting
- tested samples are in specs

Spectroscopy - first tests on the SDD unit

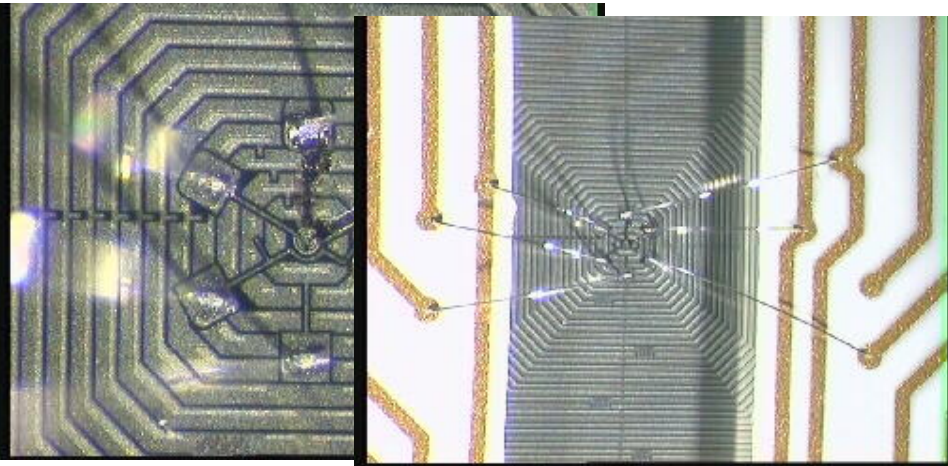


SIDDHARTA SDD detector module with 6 SDD 1cm² chips

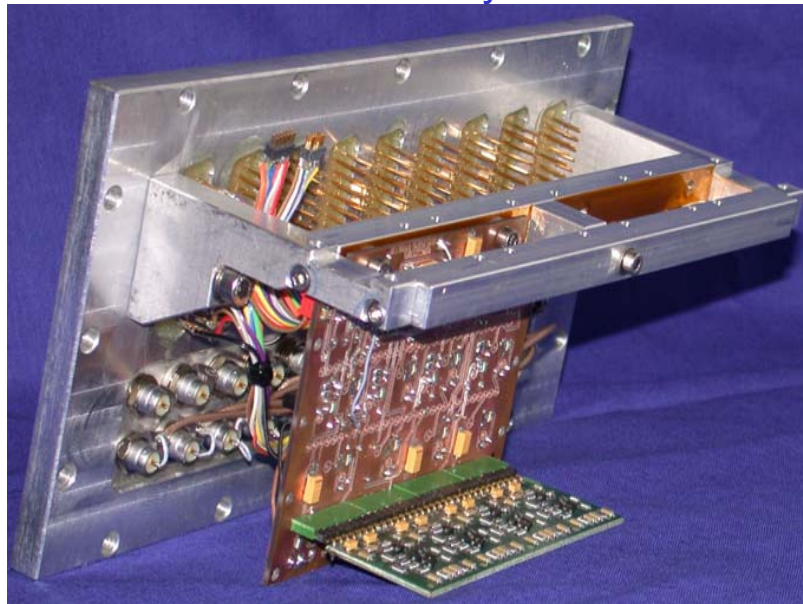


The SDDs for Siddharta - characterization

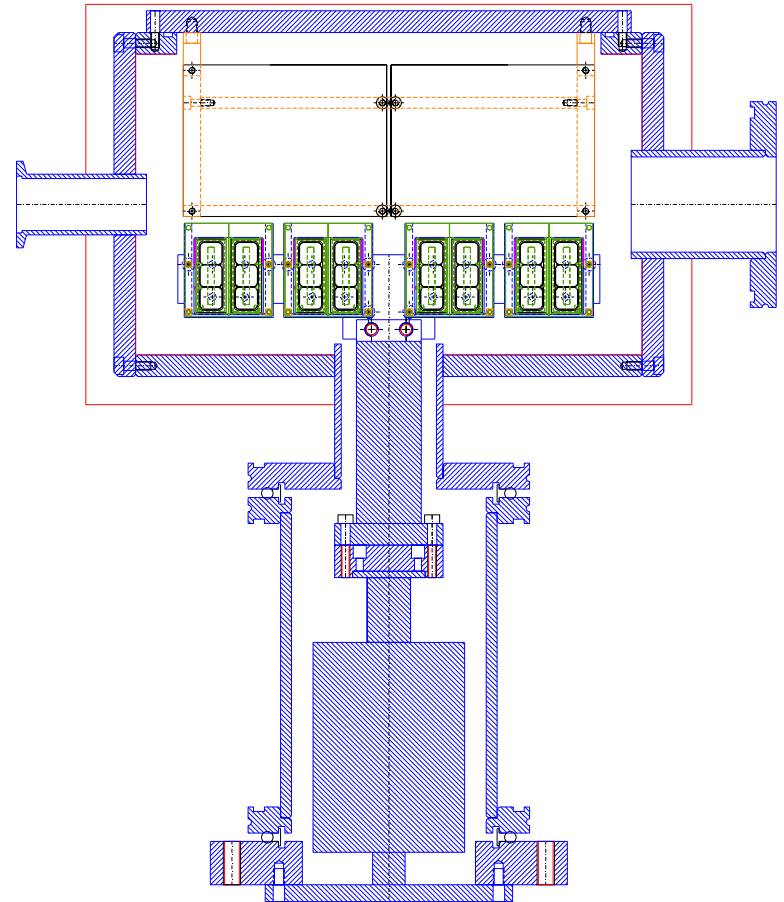
SDD Optical inspection



SDD ceramic layout



Spectroscopy test device
for 4 SDD modules with a
total detector area of 24 cm^2



Spectroscopy testing of SDDs
To start by December 2005

Front-end electronics status

Charge Preamplifier configuration

- **First run, single analog channel:** successful test in terms of resolution and timing

-> some problems -> solved in the second run

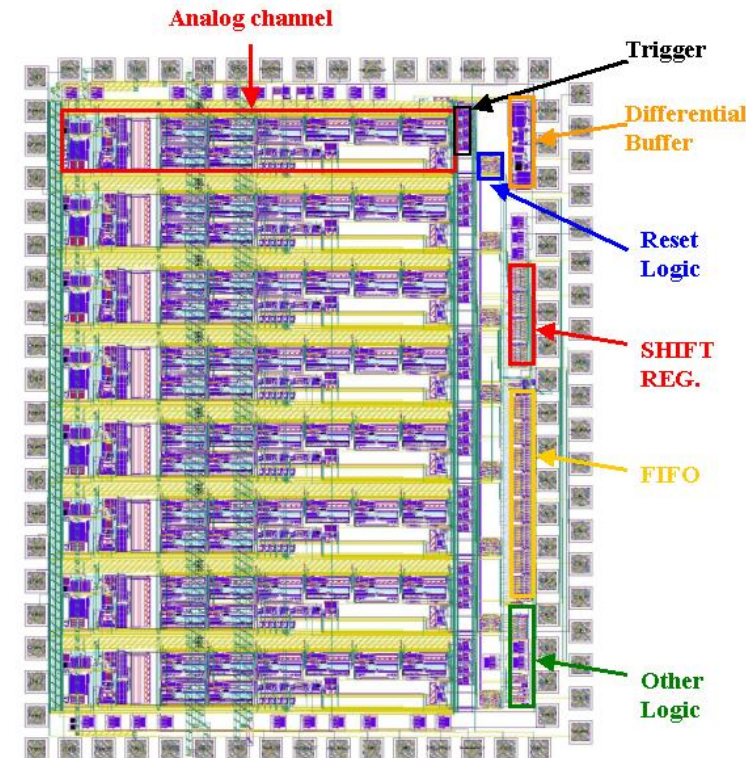
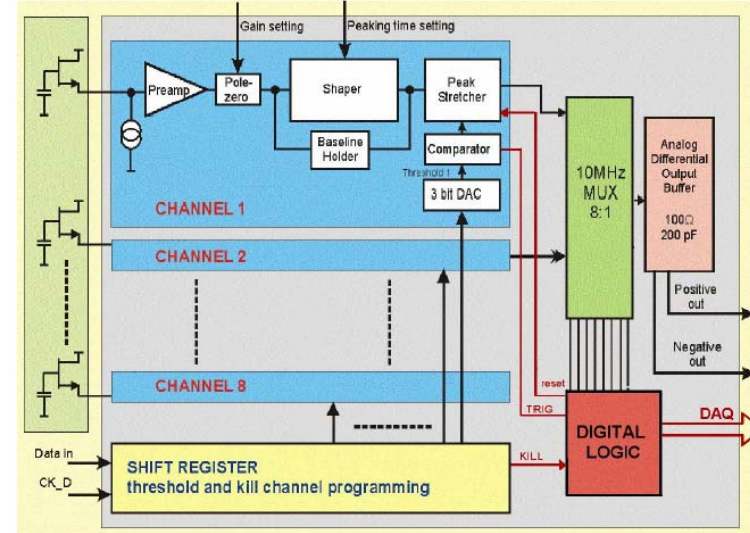
- **Second run – built and under testing**

Second run features:

- **8 analog channels**
 - Charge amplifier
 - Shaper (3 μ s, 1.5 μ s, 750ns, 680ns)
 - Fast Shaper (unipolar, 300ns, 600ns)
 - BLH
 - Peak Stretcher
 - LT and HT triggers
- **Digital section**
 - Address
 - LT (real time)
 - Differential Analog MUX
 - Acknowledge

Layout of
Second Run

THE RUN II CHIP – ready, under testing



Trigger system and Setup

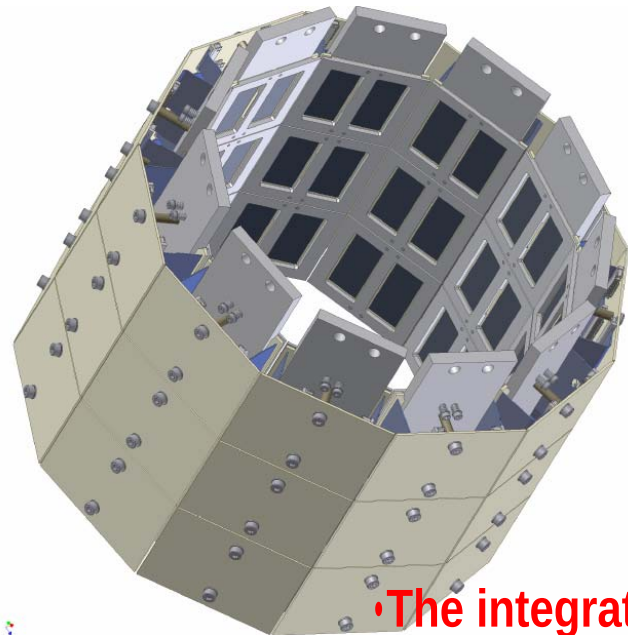
• Trigger system:

- > new PMs and scintillator gave the expected improvement;
- > fully tested at BTF – LNF
- > expected performances

Final trigger system:

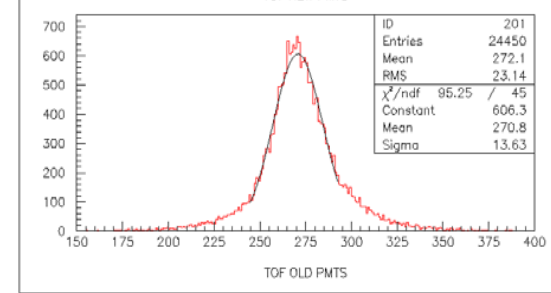
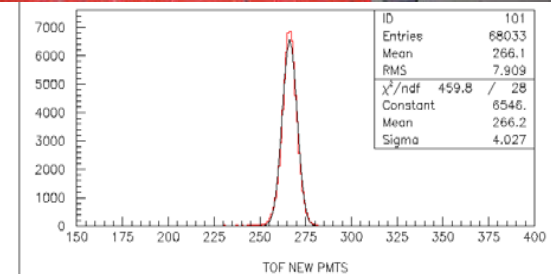
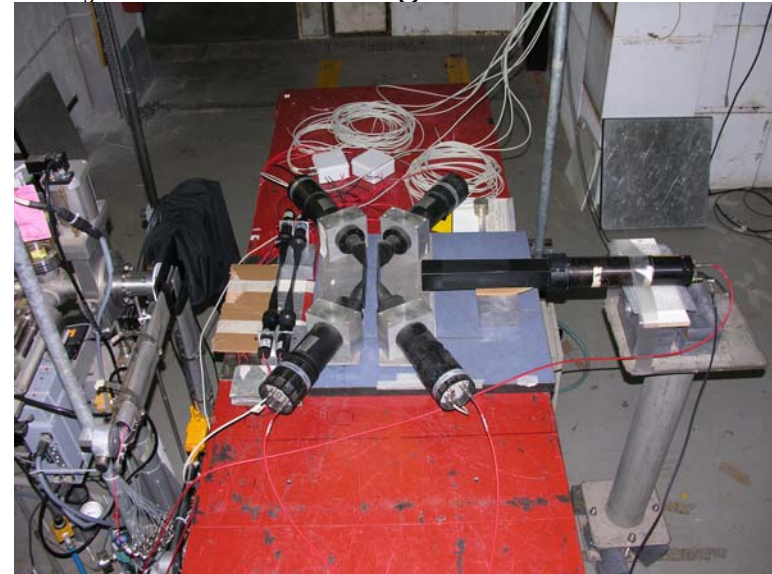
- > under construction

Drawing of the 200 cm² SDD setup for the measurement of exotic atoms X-ray transitions



Results on BTF with the new PM (Hamamatsu R4998) and new scintillators (BC420) for Kaon Trigger w.r.t Philips XP2020 and NE104

Prototype Kaon trigger system under testing at BTF - LNF



• The integration and test of all the subsystems will start in middle 2006
Installation on DAΦNE will start in Spring 2007

DAΦNE at LNF



DAΦNE

