### Status Vienna

28.05.2009

# New Setup for preamp inside

- New chamber -> bigger, influence on cables
- SUB voltage outside
- <sup>55</sup>Fe source inside
- X-ray tube (Kapton window)
- Ti and Cu foil inside
- Cable length: 2m

#### Foils and <sup>55</sup>Fe

X-ray tube

#### **Preamp voltages**

0

## Problems

- Cooling system broken: not < 200K
- SUB voltage potentiometer broken
- Cooling transport to preamp broken -> preamp too hot
- Terrible signal oscillations



# Solving problems

- ✓ SUB voltage potentiometer repaired
- ✓ Cooling system works now properly
- ✓ Preamp at 0°C during operation mode
- ✓ Grounding on SDD changed
- ✓ SUB voltage filter changed
- ✓ Value of SUB voltage changed to optimum value

# Results

#### No changes in the signal!!

- Warm up:
- Playing around with cables
- changing the SDD's position on the chamber
- Lay cables for SDD outside, no coils (linear setup)

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SUB voltage: everything turned off



SUB voltage: linear setup



#### SUB voltage: SDD on chamber

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SUB voltage: SDD away from chamber



SUB voltage: SDD on chamber

Cables of SDD shielded

Other ideas:

Grounding of chamber? Resonance in the chamber? Wrong connection of cables? Printed circuit board of SDD?

### important values

- SUB: -1.5V
- BACK: between -50V and -60V
- R1: between -10V and -30V
- RX: between -140V and -120V
- Ramp: heigth ~6V, period of ~2s @ 135K
- Shaping time: 3µs
- SDD @ 135K
- Amplifier: CAEN

## outlook

- 8 SDDs were delivered
- testing all SDDs
- testing all SDDs with one preamp for each
- Preparing housing for SDDs and preamps