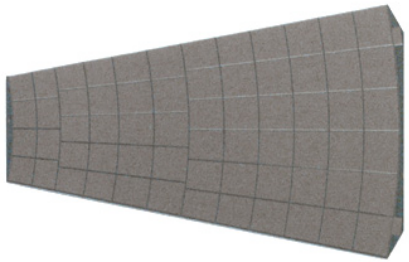
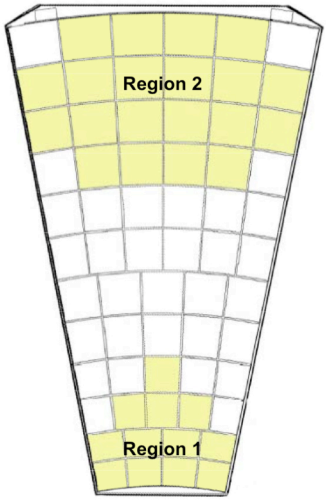
Preparation of multi-channel readout for a GaAs pad sensor

Sensors

- **provided by RID Tomsk through JINR Dubna**
  version 2011, 22.5° - 12 rings, 64 pads



Sensor chosen: AG 221 No 25

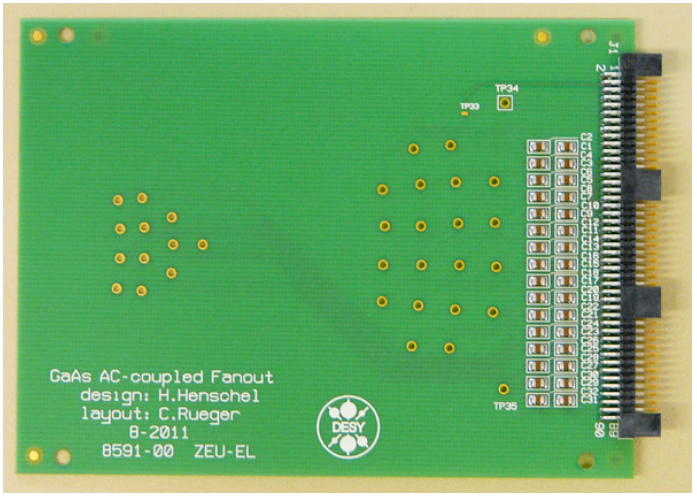


selected from comparison of
- **leakage current in selected areas**
- **pad capacitances**
- **guard ring behaviour**

Fanout

- **version 2011**
  - 0.5mm thick pcb
  - pluggable to RO board
  - reading out 32 channels in two areas
  - implementing AC coupling

- **designed, manufactured and assembled**

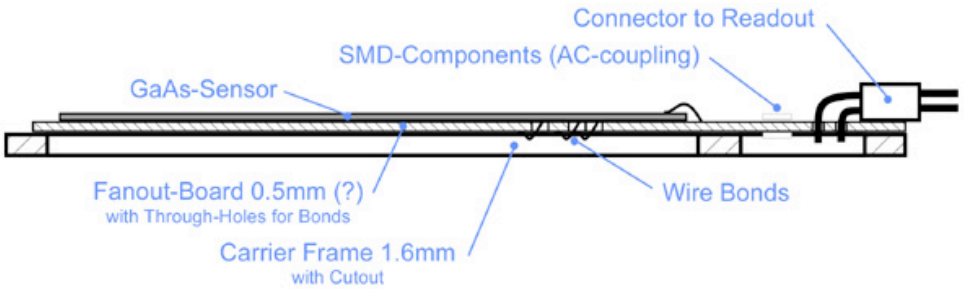


- Sensor to be bonded and tested (C- & crosstalk measurements)
- Shielding?

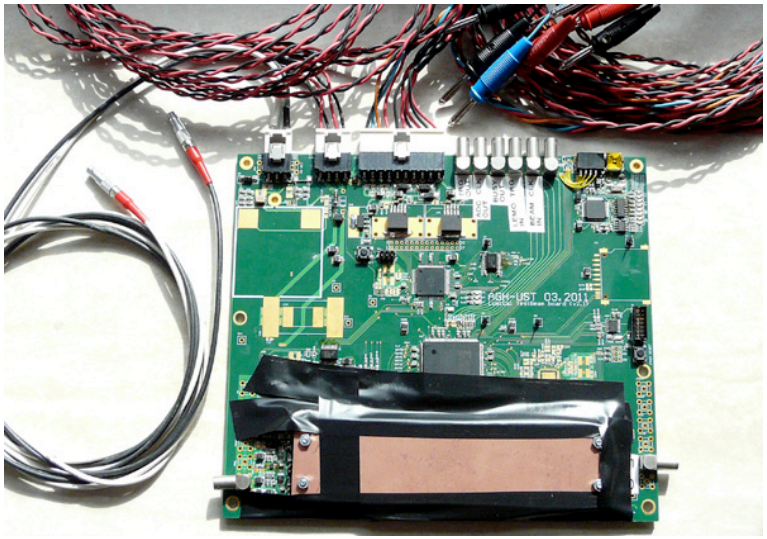
Carrier Frame

- required to support sensor and Fanout

- to be desgend & manufactured



Frontend Electronics



- **RO board, provided by Krakow**

  32-channel readout (8 channels analog)
  HV feed
  on-board sampling ADC

  FPGA for data processing/pipelining
  μ-processor for board operation/slow control

- **delivered**
- **cables manufactured**
- **software installed**

- to be operated & understood!
- to be tested with testpulses & readout
- sensor to be added & tested

Operation

- **FPGA configurator**
  software & download cable r.t.u.
- ***μ*-processor access & operation environment**
  software installed?
  access cable exists

- **Know how & source code?**
  software installed (Olga)
- **Readout**
  requirements to be checked (software, USB or dedicated cable)