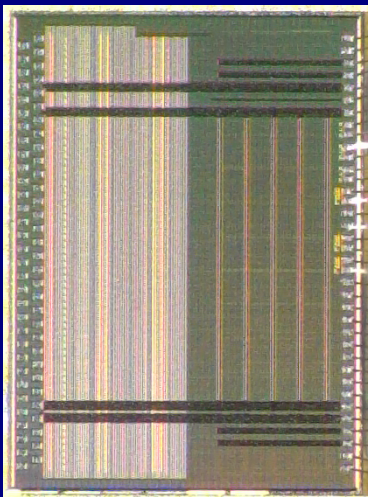


Chip for single particle detection

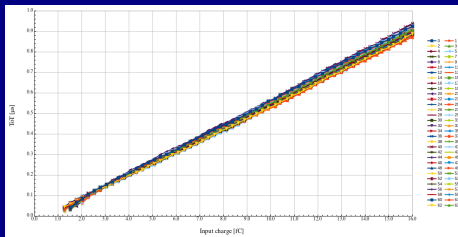


- Designed for the PANDA MVD
- 64 channels ASIC for strip readout
- Detector capacitance $2 \div 17$ pF
- ToA and ToT measurement
- Input charge up to 50 fC
- Reference clock 160 MHz
- Die size 3.24×4.41 mm²
- Time resolution (rms) 1.8 ns
- CMOS UMC 0.11 μ m technology

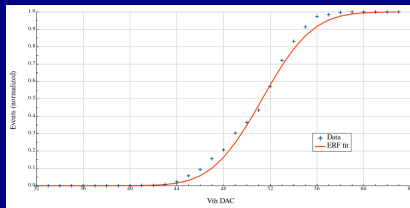


Test results

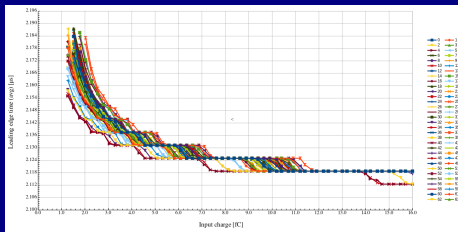
Linearity after calibration (Gain 60ns/fC)



Noise (without sensor) $\approx 300 e^-$



Time resolution (before ToT correction)



ToT distribution connected to a strip sensor and exposed to a Sr^{90} source

