

# Calice works...

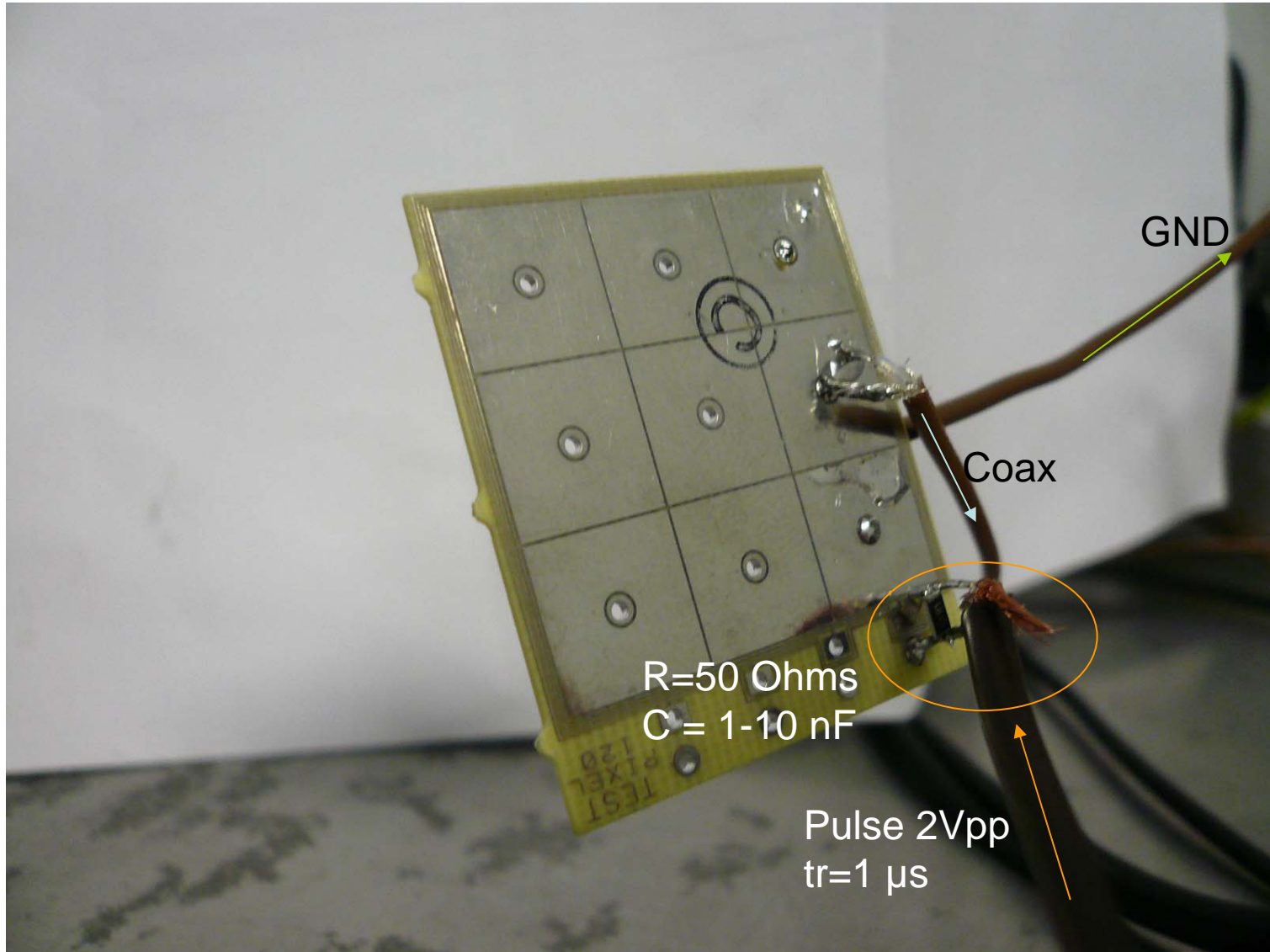
Wafer tests

DIF

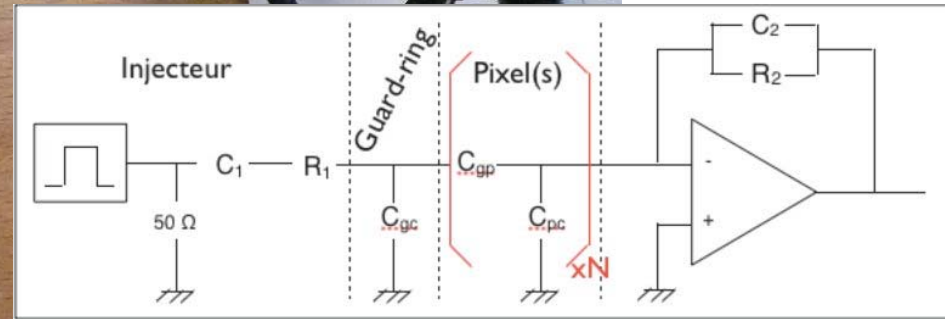
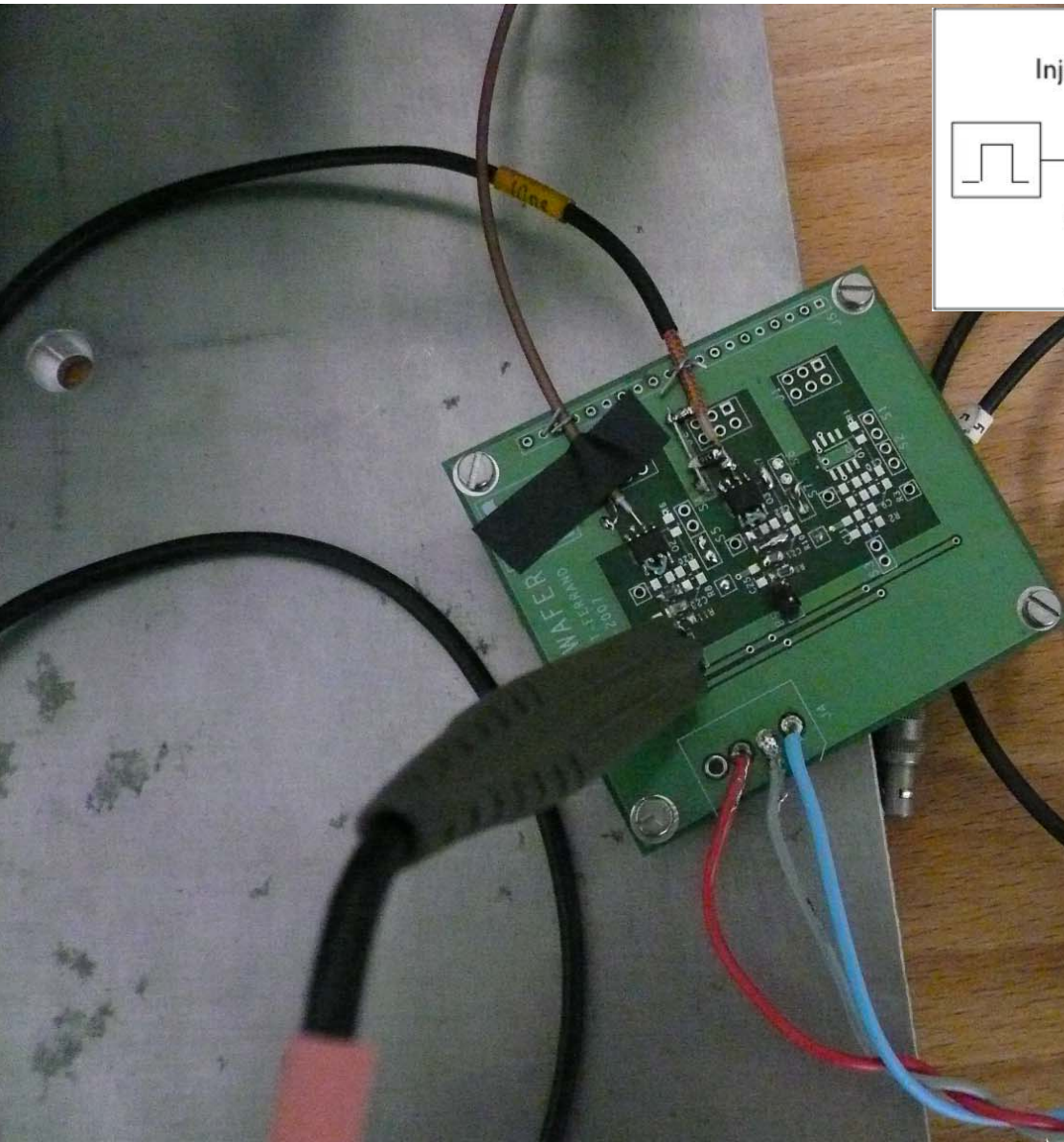
R. Cornat, F. Morisseau - LAL meeting, 06/02/08

# Wafer tests

Charge injection on Cu-epo model



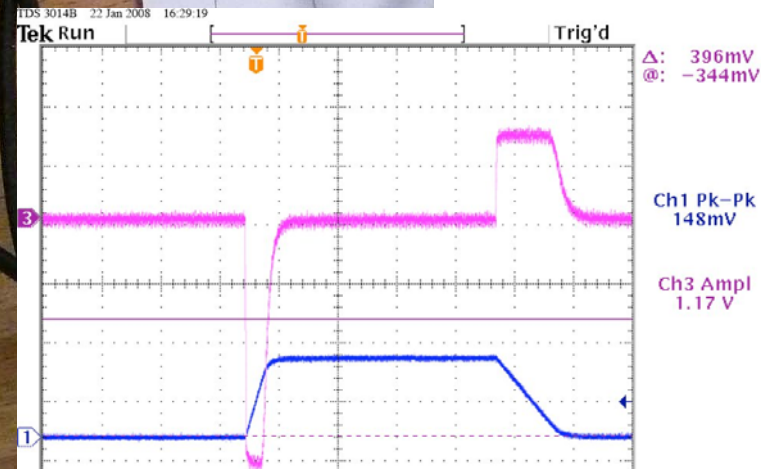
# Wafer tests (2)



OPA380 =  
transimpedance  
amplifier

$$V = G \cdot I =$$

$$G \cdot C \cdot \frac{dv}{dt}$$

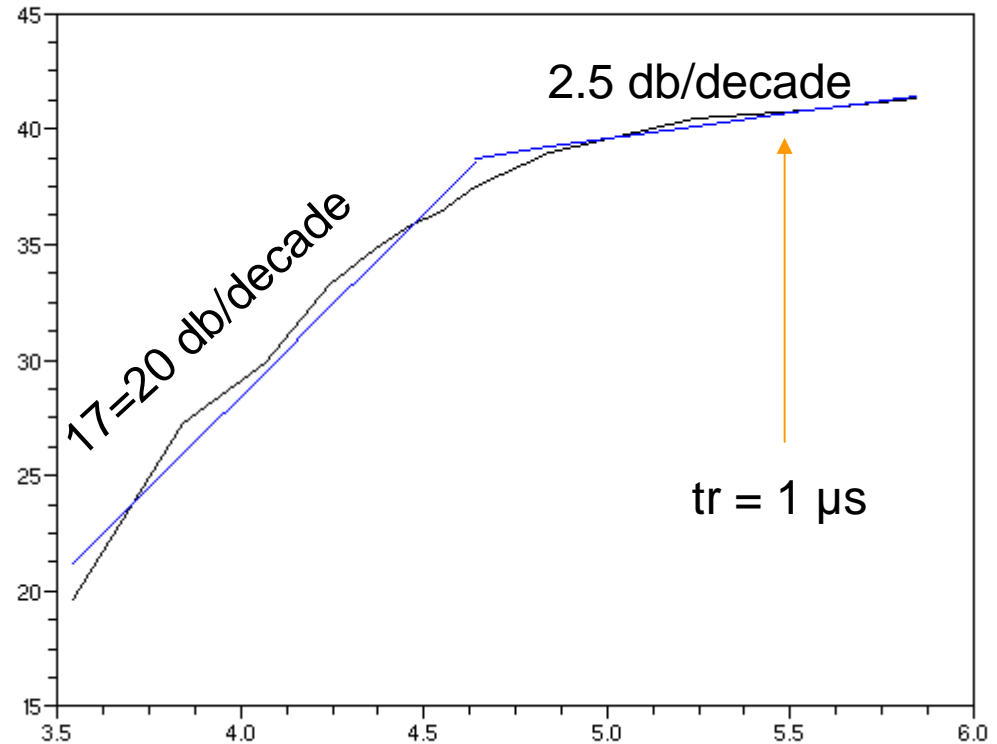


# Wafer tests

Preliminary measurements, segmented guardrings

$V_{pp} = 2V$   
Various  $t_r$   
 $C_{in} = 1 \text{ nF}$   
 $R_f = 1 \text{ MOhms}$

V (dB) – nearest pixel



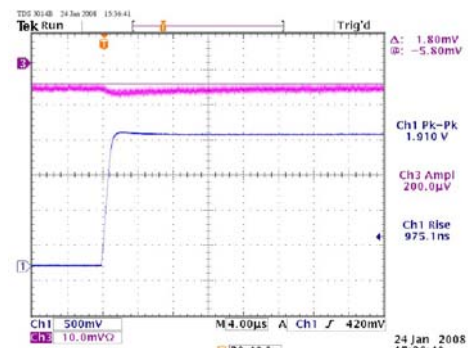
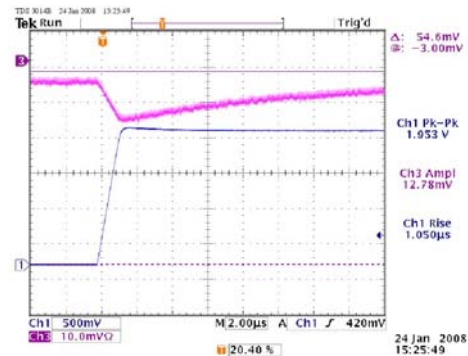
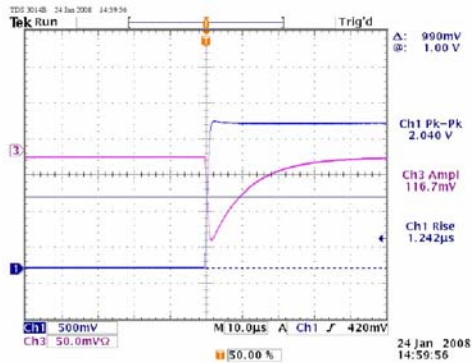
f (log)

( $f = 0.35/t_r$ )

# Wafer tests

segmented guardrings ( $l = 1 \text{ cm}$ )

$V_{pp} = 2V$   
 $t_r = 1 \mu s$   
 $C_{in} = 1 \text{ nF}$   
 $R_f = 1 \text{ MOhms}$



110

(nearest pixel)

13

2

# Wafer tests

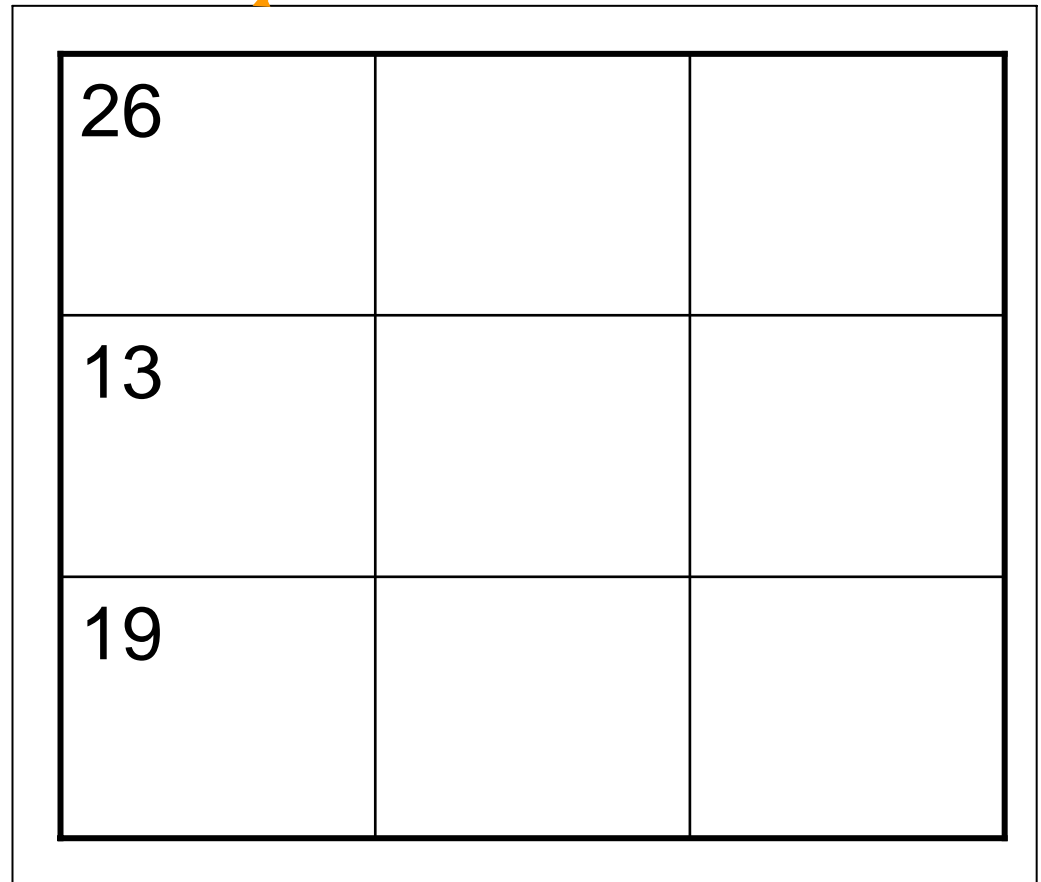
continuous guardrings

$V_{pp} = 2V$

$t_r = 1 \mu s$

$C_{in} = 1 nF$

$R_f = 1 M\Omega$



26		
13		
19		

# Wafer tests

## conclusions

- Preliminary measurements on Cu-epo model
  - Same order of magnitude as for simulations
  - Segmented guardrings should limit pure crosstalk effects
  - Measurement electronics to be improved
- Full setup for real wafer ready
  - Black box, probes and micropositionners
  - 3x3 wafers **should have been ordered...**

# DIF / ASUDAQ

- Prototype board for
  - ASUDAQ (ASU cosmic test bench)
  - DIF for ecal prototype

is being P&R

- Some HDL under development