



5th International Workshop on DEPFET Detectors and Applications

- Important milestones since the last DEPFET workshop (May 10, Ringberg)
- Mission of this meeting



Important Milestones since Ringberg



May 25: Meeting with the TDR Review Panel
(Chair T. Nakada)

Jul 5-7: B2GM
(1st meeting after the „Green Light“ for SuperKEKB:
110 M\$ for machine construction by MEXT)

Schedule confirmed: First Beams on April 1, 2014
(start machine commissioning)

Sep. 13: Meeting with the German Funding Agencies
Four (new) groups have applied for funding:
Gießen, LMU, TUM, new Bonn group (J. Dingfelder)

Short Summary of Meeting with the
„Gutachter-Ausschuss“ (Review Panel)
and Representatives of the BMBF
(„Projekträger“)

Purpose of the Meeting:

4 (new) groups (Bonn2, Gießen, LMU, TUM) have submitted funding requests to the BMBF

The GA advises the BMBF on the quality of the application and makes a recommendation for (future) funding

Place: Gustav-Stresemann-Institut, Bonn, 13.9.2010



Participants



GA members:

T. Behnke, C. Hagner, K. Jakobs (chair), T. Mannel, G. Quast,
U. Uwer, R. Voss, D. Zeppenfeld

BMBF-Representatives: K. Ehret, M. Hempel, H. Mahlke

DEPFET: M. Feindt, P. Fischer, C. Kiesling, H. Krüger,
H.-G. Moser, T. Müller, I. Peric, N. Wermes



Agenda of the Meeting



TOP 1 Overview of the SuperKEKB/Belle-II Project

TOP 2 Plans for Germany within Belle-II

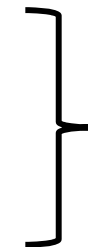
TOP 3 Status DEPFET Sensor Development

TOP 4 Readout Electronics

TOP 5 Belle-II PXD DAQ System

TOP 6 PXD Integration: Mechanics and Infrastructure

TOP 7 Longterm Planning of German Groups



C.K.

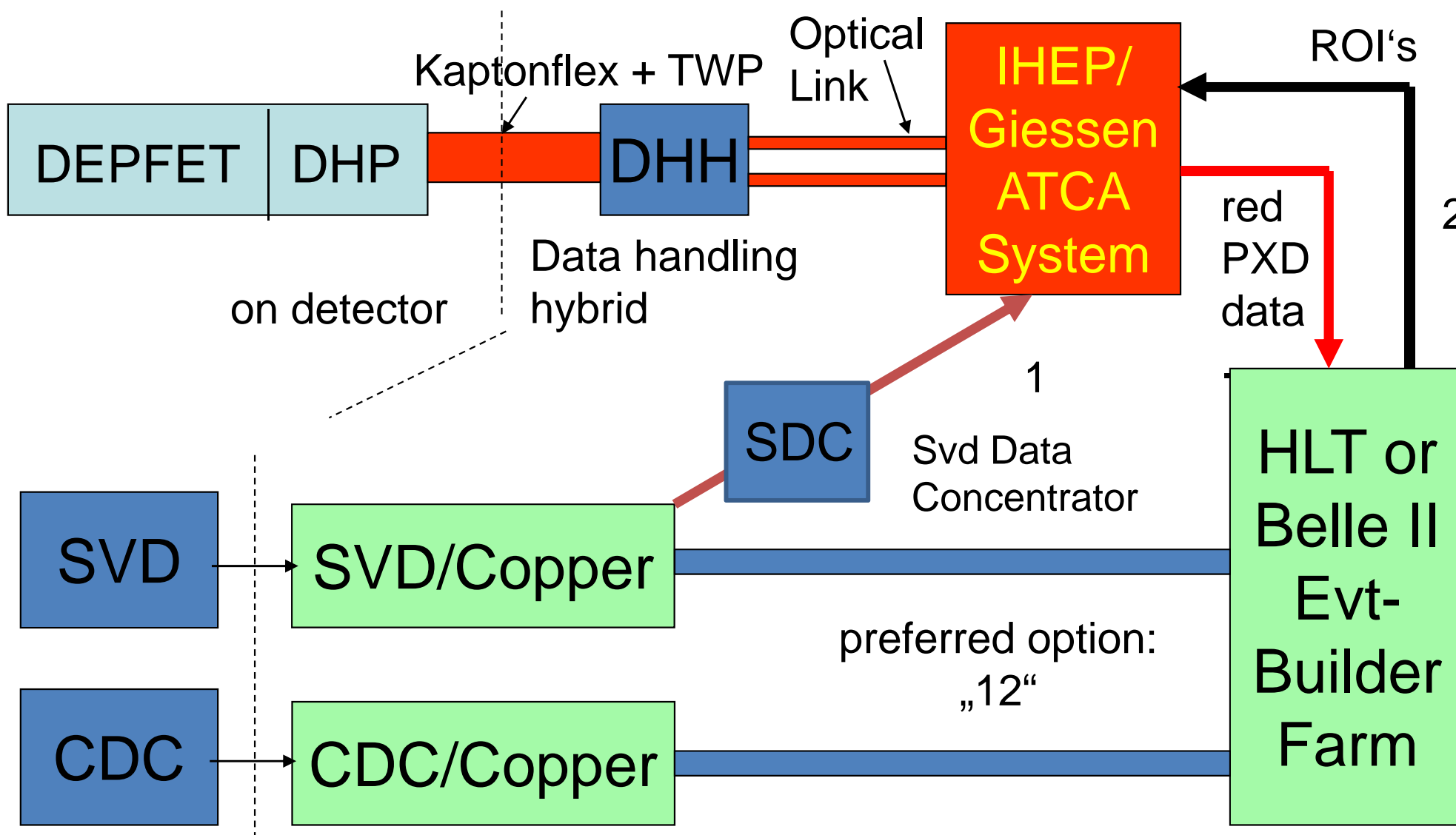
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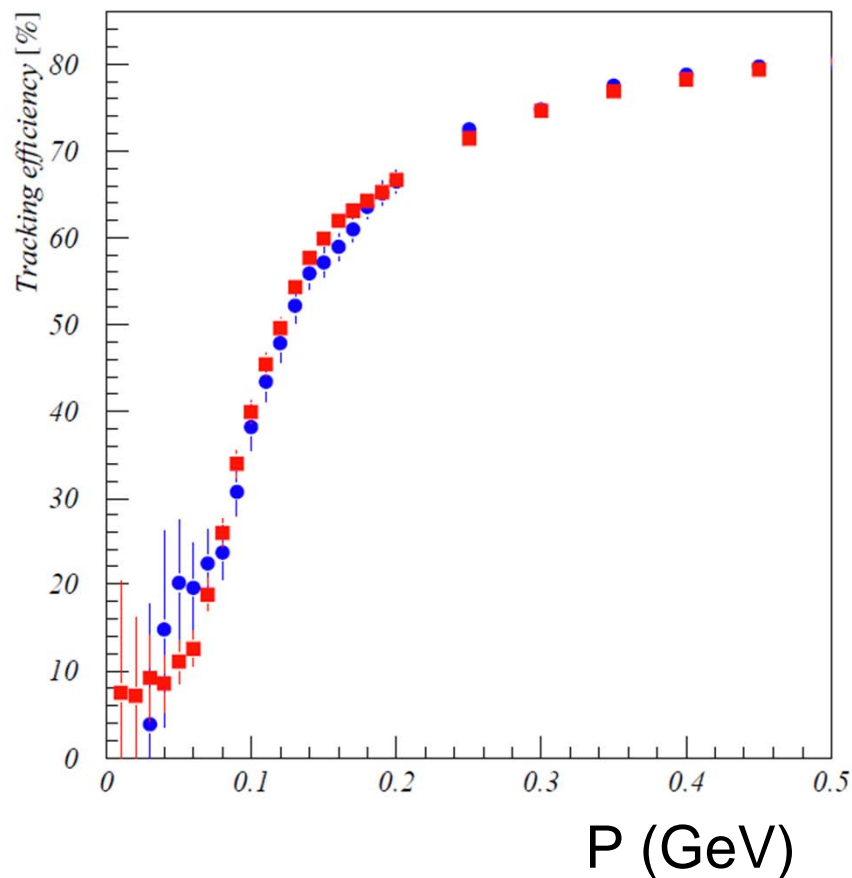
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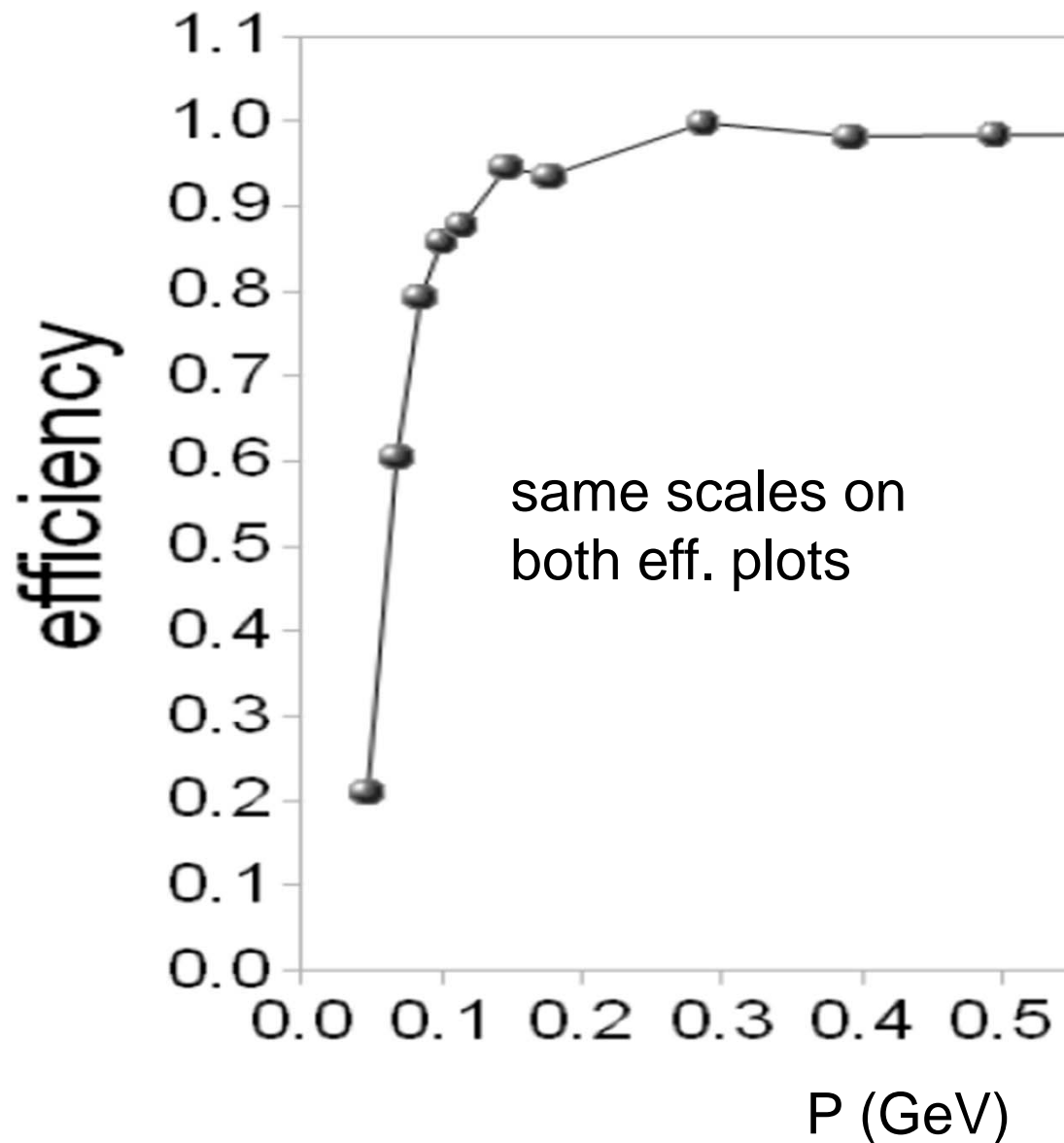


Option 3: No ATCA system, PC for each DHH instead (no SVD data)

Full reconstruction, Belle
SVD + CDC



Hough with SVD only, Belle-II



Status: New groups request money in the middle of the running funding period

General feedback from the GA and BMBF:

- DEPFET activity in Belle-II is well received, meets the general support of the ministry. However, not much money to distribute ...
- So far no definite (official) conclusions communicated to all the new applicants, except:
- LMU, TUM: positive evaluation by the GA, but only travel money granted.
- Gießen was asked to formally submit their application to the BMBF (good sign), no news from Bonn2

- The DEPFET-group in the (private) university Ramon Llull (Barcelona), working together with us on the DHH, PP etc. was cut in funds very recently (email from head of electronics department arrived last Friday)
- At present apparently no possibility to continue within the DEPFET collaboration
- Immediate consequence:
Ricard Arguile and Pau Bergada could not come to the PXD-DAQ Workshop near Gießen (last weekend)
- Will inquire whether withdrawal is definite

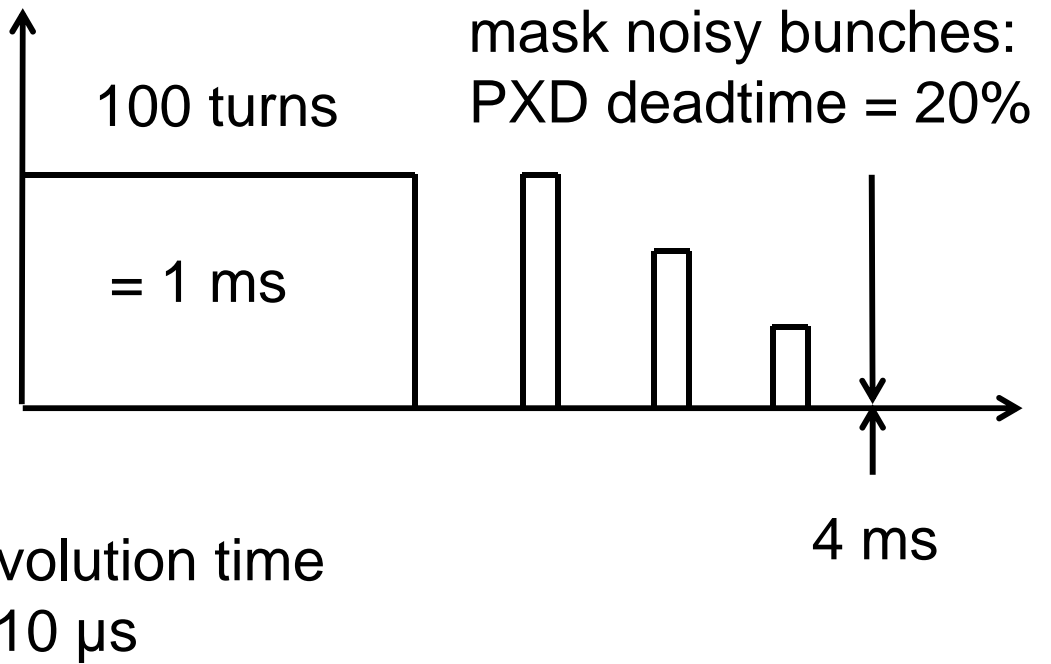
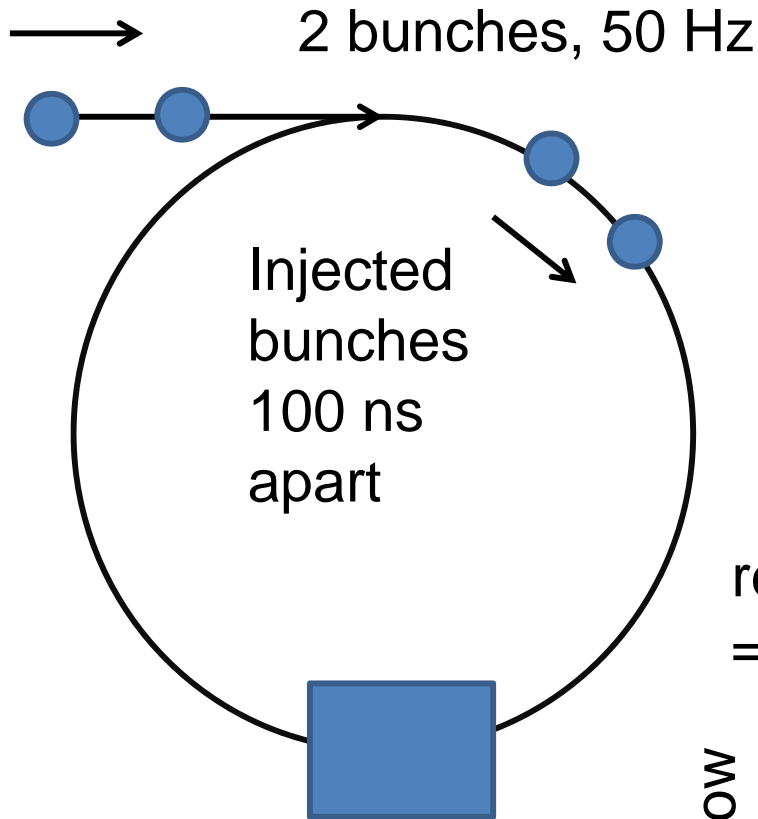


Status of the Project

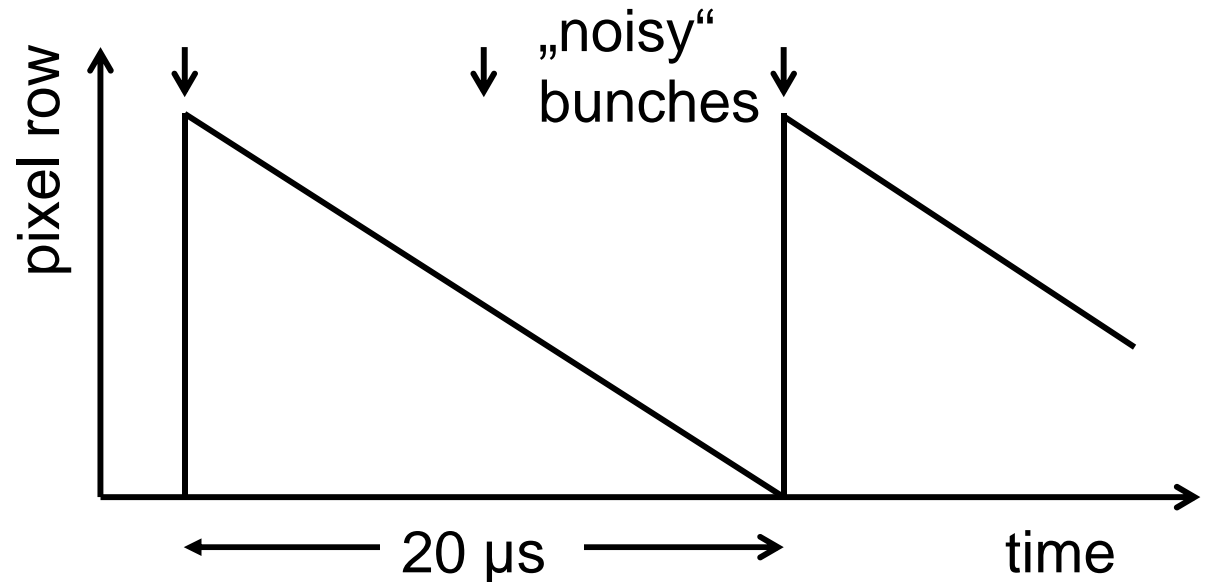


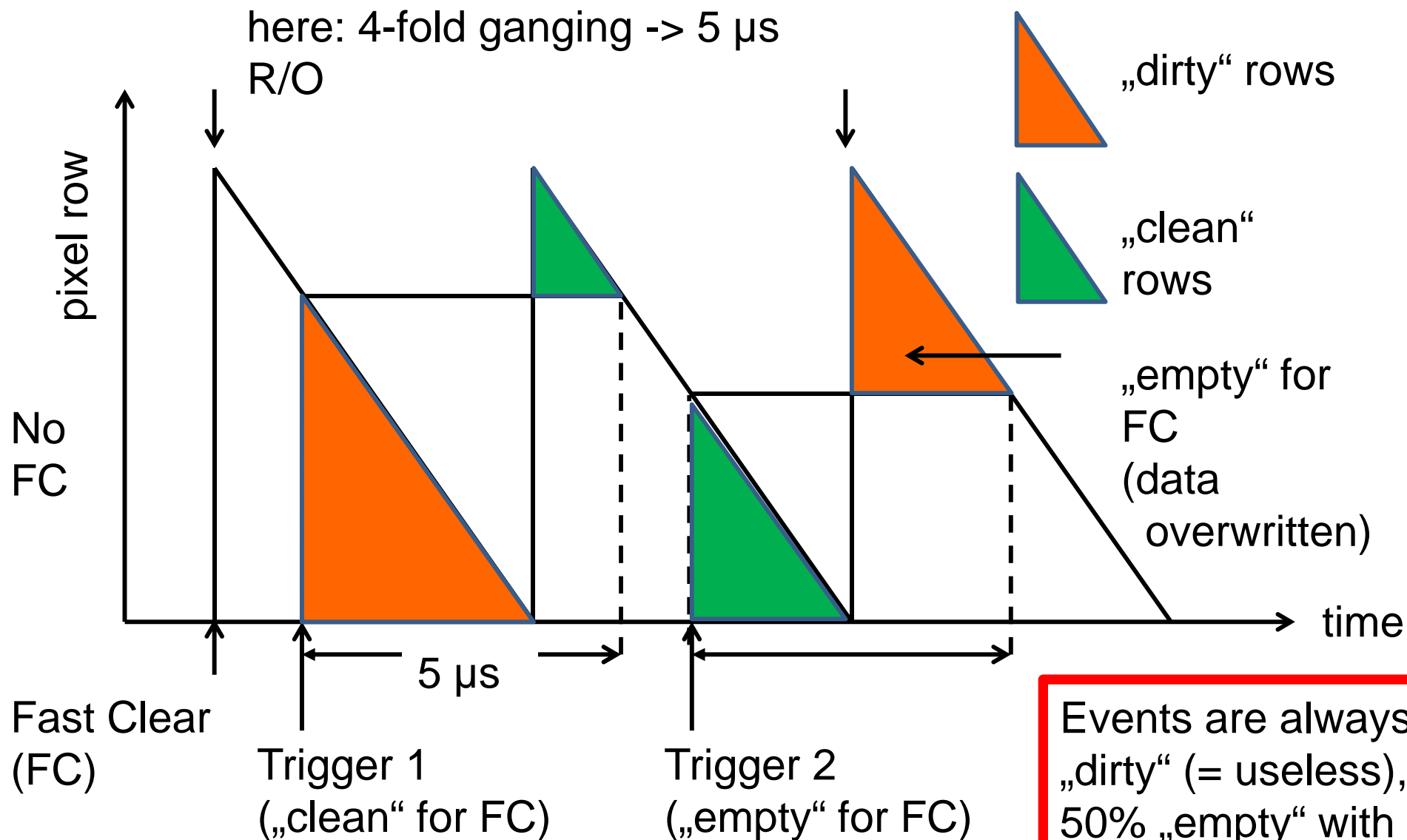
This meeting:

- Very good progress in many areas of the project, e.g.
 - electronics (ASICs),
 - mechanics / cooling
- However, some problems seen, e.g. in
 - DEPFET prototype production yield,
 - readout speed
- Another big worry: SuperKEKB injection scheme



Problem for DEPFET:
noisy bunches cannot be
gated away





Events are always „dirty“ (= useless), 50% „empty“ with FC (=almost useless)

DEPFETs:

- worries about the yield (from prototype production)
- no time for another proto-type production

Elektronics (ASICs):

- Can we reach the required readout speed (~ 90 ns/row) to have pixel sizes ~ 50 μm in z ?
- can the DHP drive Gb/s data via Kapton/TWP up to 20 m ?

Cooling:

- CO₂ 2-phase evaporative system: Can the present design deliver the required cooling power? Is the air cooling sufficient ?

SuperKEKB injection with 50 Hz and ~ 4 ms beam cooling time:

- can we avoid the huge resulting deadtime (~ 20 %)?
- can the beam cooling time be decreased ?