The SVD software status

A. Bożek, IFJ PAN Kraków

1. Current status
2. organizations issues
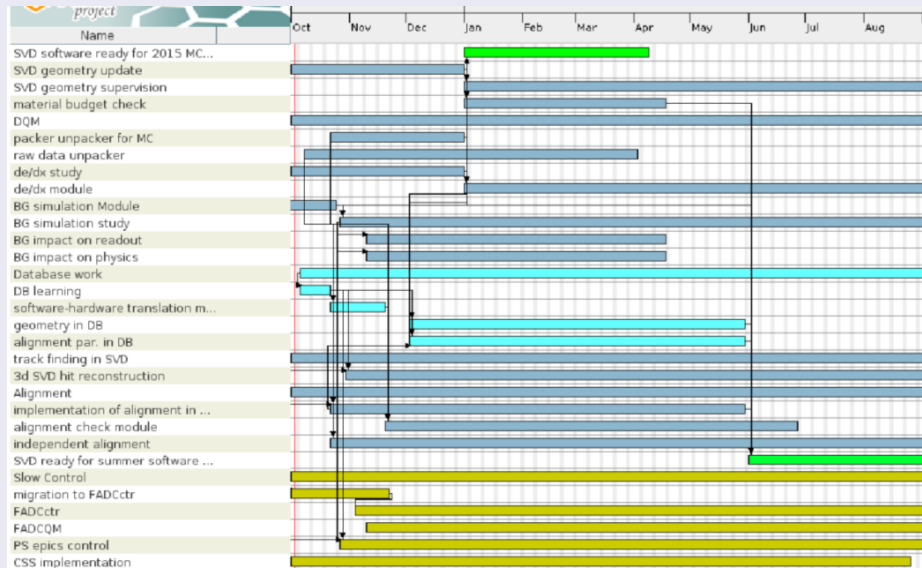3. towards new schedule

Outline

Status

- Overal status is ok,
- Still few missing but
- Focus should move from crisis management scheme to quality development stage
    - are we ready?
    - relatively large number of involved people
    - still some subjects are under manned

Several presentations on this meeting

- Slow control x4
- VXD background
- VXD alignment
- VXD tracking
- Cern test beam
- SVD dgitalization and alignment (Peter)
- SVD validation and calibration (Giacomo)
- discussion on DESY beam test $\rightarrow$ very important
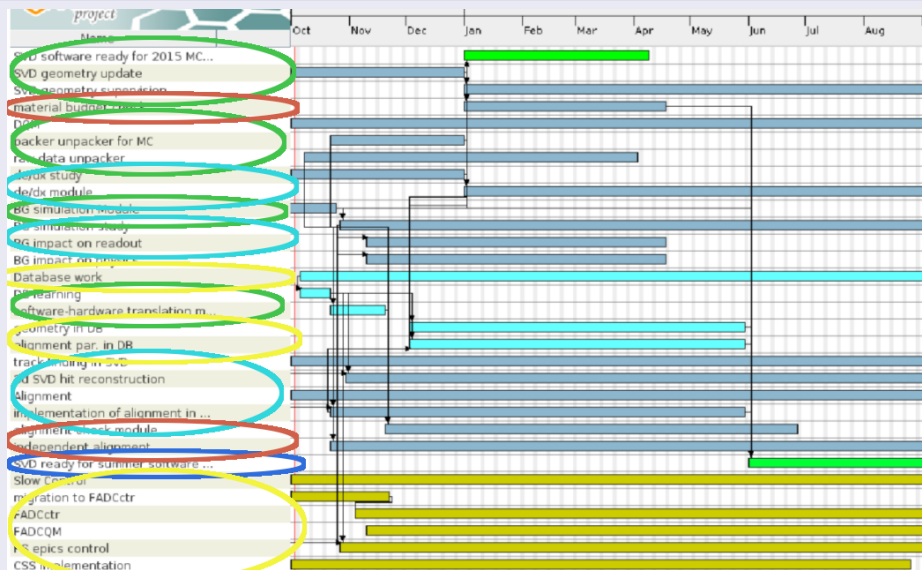
History - Task list (Pisa VXD meeting)

Short term tasks list

History - Task list

current status

The SVD software status

subject already presented on the wider forums

- SVD geometry implementation (Jacek)
- packer/unpacker (Jarek)
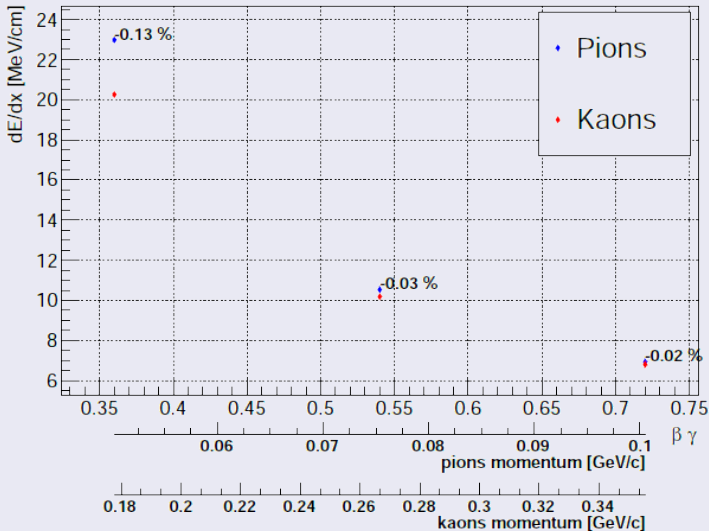- software-hardware translation (Abdul)

The SVD software status

One item was omitted last year

- Calibration procedures:
  - it was includes as a part of slow control and alignemnt work →
  - obviously not enough,
  - We need a dedicated person who can relive both other group, especially it is not their main focus
  - Giacomo (Melbourne) just started the work

Important missing items for calibration

- list of the calibration tables which Peter (we) should use and **were**, → to be solve on this meeting
- identify what calibration tables can be filled by slow control (timing ?), → to be solve on this meeting
- and calibration and alignment groups , → to be solve on this meeting
- de/dx calibration and specific module, very important subject, → meeting organized by Jack on Sep 20 (probably it will be continued by Rajeev).
- Abdul implements XML files structure (if missing for all calibration files) → we are not here to solve Belle II software short-come

test performed by Giacomo on universality

Sim: de/dx vs β γ for π and K

test performed by Giacomo on universality

- Verified that $\beta\gamma$ universality is valid within reasonable limits
- For very low momentum pions ($\sim$ 50 MeV) there is still a considerable difference between pions and kaons
- Could it be due to the effect of the two layers of the PXD ?
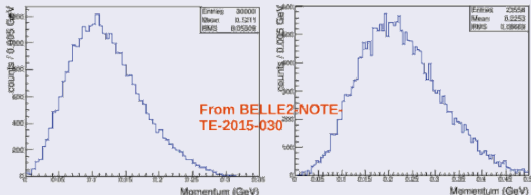

From BELLE2-NOTE-TE-2015-030

FIG. 3: Momentum distribution of soft pions originating from $\Upsilon(4S) \rightarrow B\bar{B}$ events with one B decaying to a $D^{*\pm}X$ followed by $D^{*\pm} \rightarrow \pi^{\pm}D^0(\bar{D}^0)$ (on the left), and originating from continuum $c\bar{c}$ events producing $D^{*\pm} \rightarrow \pi^{\pm}D^0(\bar{D}^0)$ (on the right).

dE/dX

- proposed major modification to the Belle II reconstruction software of dE/dX,
- splitting the SVD and SVD measurement
- meeting on that subject proposed on Friday, Sep. 25 14:00 CEST (20:00 JST)
- if you are interested please join
- we need to take care of new dE/dX module.

Conclusions

- overall good progress in the last year
- main concerns
  - slow control
  - dE/dX
- New milestones should be settle after discussion on the VXD meeting and then on B2GM
  - slow control - preparation by DESY beam test
  - software planes for beam test -new

are we ready to change focus from crisis management to quality assurance phase?

- we have to
- basically all subjects were addressed

backup

SVD software status

organization issues

- dedicated software meeting
    - we went from weekly meetings → complains that it is too time consuming
    - bi weekly meetings → not enough interests
    - to irregular ≈ every 3 weeks meetings
- progress slow enough, it is counterproductive to present every week on the SVD meeting → still dedicated talks on specific subject should be scheduled (really scheduled) every 2-3 weeks
- number of active developer Prague (3), Kraków (3+1), Vienna (2+3), Australia (2+1) and India (2+)
- sometimes lack of coordination, people are slowed down by not having access to private Peter's development code → on other hand, he is doing most of hard core development, hard to force him to spend more time on teaching about his evolving code