Status of TOF Calibration Software

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Barbara's Questions

Q1: Update on geometry and calibration database work. status of design & implementation of DGO (detector geometry object), DAO and DCO

Q2: Is the software ready to deal with inefficiencies, dead channels, etc.?
through channel mapping, or through special calib values?

Q3: What is status of software necessary for determining alignment constants ?

Q4: What is the status of software needed for determining calibration coefficients?

Q5: What is the exected time dependence (or validity window) of a set of calibrations?

Q6: What is the status of software for using calibration and alignment coefficients in the reconstruction?

Q7: What are your plans for the next 1–2 months? Who will work on it?

Measurement

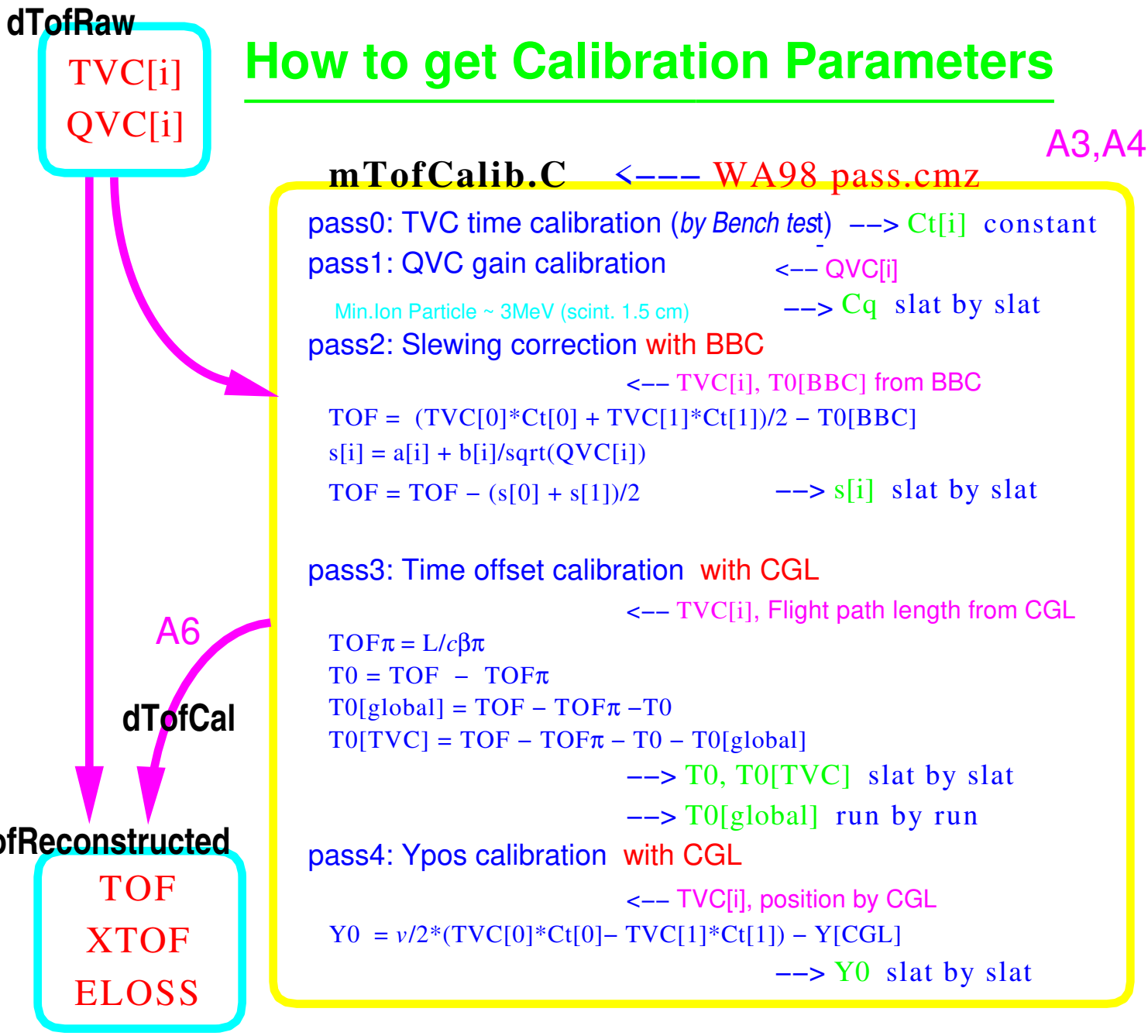
$$TOF = \{TVC[0]*Ct[0] + TVC[1]*Ct[1] - (s[0] + s[1])\}/2 - T0[BBC] - T0 - T0[global] - T0[TVC]$$

$$Y = v/2*(TVC[0]*Ct[0] - TVC[1]*Ct[1]) + Y0$$

$$QVC[i] = QVC3[i] - QVC1[i]$$

$$ELOSS = Cq*\sqrt{QVC[0]*QVC[1]}$$

i = 0 : lower / 1 : upper



Based on WA98 calibration program (pass.cmz, Fortran), design is completed.

Calibration parameter

A5

		No. of Parameters	Calibration period
T0	Time offset of each slat	No. of slats	every 50 runs
T0[gloval]	Time offset of a run	1	every run
T0[TVC]	Time offset of each TVC	(No. of slats)*5	every 50 runs
Y0	Y−position offset	No. of slats	every 50 runs
Cq	QVC gain conversion [eV/ch]	No. of slats	constant
Ct[i]	TVC time conversion [ps/ch]	No. of PMTs	constant
s[i]	Slewing correction function	2 (up, down)	every 50 runs
v	light velocity in the scintillator	No. of slats	every 50 runs

Question2 −−> A2:

inefficiency is checked by tracking.

Dead channel is checked by QVC value.

Plan for the next 1−2 month

A1 & A7

What

- Implimentation of DGO
- Make calibration module in new framework

  Pass 1,2 : end of Apr.99

  Pass 3,4 : end of May99

Who

- Akio Kiyomichi : coordinate & check
- Miwako Suzuki : Transplant from WA98 code
- Kunio Koseki : Data I/O part with DGO,DCO