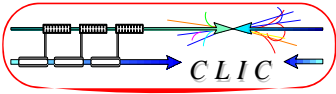




ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Laboratoire Européen pour la Physique des Particules
European Laboratory for Particle Physics



CTF3-Cttee-Min-2

Minutes of the 2nd CTF3 Committee

Thursday 15th May 2008

Participants:

H. Braun, R. Corsini, J.-P. Delahaye, K. Elsener, A. Faus-Golfe* (UPC Barcelona), T. Garvey* (PSI), G. Geschonke, G. McMonagle, F. Orsini* (CEA), K. Peach (J. Adams Institute), M. Petrarca, L. Rinolfi, R. Ruber (Uppsala University), V. Ziemann* (Uppsala University).

* connected via webex

Welcome:

G. Geschonke apologizes for the last time where he was absent for cause of illness and apologizes for having missed some invitation to Spanish collaborators.

1. Introduction (G. Geschonke):

Günther proposes practically the same agenda as for the first CTF3 Committee meeting and asked if some topic should be added to the Agenda. Yes, Angeles Faus-Golfe will present the status of works done by IFIC (Institut de Fisica Corpuscular) Valencia and UPC (Universitat Politecnica di Catalunya) Barcelona.

Then the agenda is approved.

2. Update on CTF3 installation and planning (L. Rinolfi):

Louis presented an update of the CTF3 installation.

Two klystrons are out of order since the beginning of the year because their charging power supplies have broken down and are not repairable. New ones from a different supplier are scheduled to arrive at CERN in June.

Louis reported about the two RF deflectors being built by LNF for the Combiner Ring. One of the questions is where to test them with high power RF prior to installation. T. Garvey has investigated the possibility to make RF power tests at PSI and informed the committee that it is not possible to perform these tests at PSI. Therefore they can only be tested either at Trieste or at CERN.

Concerning the Transfer Line TL2 which is partly installed, he mentioned that the installation of the kicker and the collimator of the Tail Clipper have been delayed by 2 weeks. They will now be installed in October 2008 (see Annex 1). The two week shutdown has therefore been moved by two weeks to weeks 40 and 41. This has also consequence on the installation of PETS tank into CLEX.

Louis mentioned also two concerns in order to complete the TL2 line in June 2008:

- a) the 4 dipoles from RRCAT and Indore (India) are not yet at CERN. They will need to be revised and probably some magnetic measurements should be performed
- b) the 46 power supplies for all dipolar correctors are not yet at CERN.

Added after the meeting:

The 4 boxes containing the magnets have been received at CERN on Friday 16th May.

CLEX Hardware tests have started. 30 power supplies (out of 81) have been fully tested, their regulation parameters were adjusted and the polarity of the magnets was checked.

The CLEX schedule remains unchanged, i.e. weeks 23 and part of week 25 are dedicated to test the laser with UV light into CLEX (CLEX access restricted to laser experts only). Start of RF conditioning for CALIFES is planned for 7th July 2008. The first beam from CALIFES is foreseen for the 24th July 2008. (see also last minute news in chapter 8). Beam from CTF3 could be available for TL2' and TBTS from August 2008 onwards (see Annex 2).

The RF gun for PHIN in CTF2 will be delivered to CERN on 20. May. The installation schedule will depend on accessibility of CTF2 and available manpower. One klystron will have to be shared between three users. This and the performance of the laser system makes a precise planning of PHIN commissioning difficult for the moment. (see Annex 3).

3. CTF3 operation status and plan (R. Corsini):

Roberto mentioned that the beam was sent this morning, for the first time this year, up to the end of the TL1 line. The beam energy is around 80 MeV.

The thermionic gun dark current is normal again this year after changing the cathode and repairing some of the electronics hardware, it is about 0.060 mA. However the gun becomes unstable from time to time. Although the nominal high voltage is 140 kV, a working point at 145 kV showed better stability. Problems with the software controls are still present.

Good results have been obtained with the segmented dump on girder 10 which allows now to measure the energy profile.

A good agreement, between calculations and measurements, has been found for the automatic steering program.

The matching of the linac optics using quadrupole scans still gives some disagreement with predictions, which are not yet understood.

Beam tests for EuroTeV BPM were performed. Below 0.2 A, one gets 100% transmission through the 3 BPMs. At higher beam currents the transmission is reduced to 30% in the second BPM. The problem is under investigation.

Concerning the 30 GHz program, no news was reported.

Machine commissioning is presently based on two shifts per day. the schedule for the year is given in Annex 4.

4. RF deflector for Combiner Ring:

Andrea had informed Günther about the status. Work on the deflectors is advancing according to planning. He will contact Trieste to investigate the possibility of RF power tests.

A new optics with a different working point for the Combiner Ring is now available. This should allow to reduce the effect of the instability while the new RF deflectors are not yet available

5. CALIFES (F. Orsini):

Fabienne presented the status of the Probe Beam system. She presented the work done in week 17, where 28 nJ from the UV laser were measured.

The reason for the misalignment of the line is now understood and will be corrected. This week and next week the CEA team will continue work on the cabling and the beam instrumentation .

The work foreseen for weeks 21, 23 and 25 were reviewed.

Fabienne will be at CERN next Tuesday. We will arrange a meeting with the Uppsala team (Volker and Roger) in order to discuss the installation and operation schedule for July and August.

6. TBTS (R. Ruber):

Roger commented the work on TBTS. He mentioned that 5 quadrupoles were found with wrong polarities. The 2 dipoles BHB (ex-MDX) have been prepared to receive the vacuum chambers and the dipole CA.BHB 0800 will be re-measured concerning the magnetic field.

Roger estimated that 2 weeks will be necessary to install all vacuum chambers after the alignment of the BPMs.

Roger drew the attention to the change in the CLEX schedule (see Annex 2). The 2 weeks of shut-down which are now foreseen at the beginning of October has consequences on the installation of the PETS tank and the commissioning programme.

Next week, V. Ziemann will be at CERN and the schedule of the installation and operation will be reviewed with Louis and Roberto together with the Uppsala team and CEA team.

Jean-Pierre asked about the CTF3 team support for TBTS. Roger answered that sufficient support is available to finish the installation.

7. TBL (S. Doebert and A. Faus-Golfe):

7.1: Steffen was not available for this meeting. His transparencies were shown by Günther. The status of the components was reviewed and a tentative schedule was presented. Testing of the PETS prototype from CIEMAT is expected to start with beam in the second half of 2008.

Roger asked about availability of the TL2 line, inside CLEX, including MTV. Louis answered that the end of the TL2 line and the corresponding spectrometer line "CCS" are foreseen to be completed at the end of June 2008. Beam extracted from the

Combiner Ring into TL2, will go until the end of TL2 in the CLEX building. There will be no beam dump any more in building 2003 (until the tail clipper and its collimator are installed).

Hans asked if slits will be installed into the spectrometer line "CCS". Louis answered that no slits are foreseen for the moment. Roberto will check if the former slits from girder 4 are still available.

7.2: Angeles presented the BPS status. The developments are made by IFIC and UPC.

Good performance has been achieved for BPS output above 30 MHz. Overall response will be improved by a modified circuit design of the amplifier electronics card.

The BPS pulse droop constant were measured at CERN. More work will be done on the electronics.

Günther congratulated Angeles for her success in obtaining funding for the series production of all 16 BPMs for TBL together with their head-amplifiers.

8. Photo Injector (K. Elsener):

Konrad presented the status of the CALIFES RF gun and preparation chamber.

A big water leak was discovered today at 12h. This implies that all CLEX schedule might have to be reviewed, depending on the origin and repair possibilities for this leak.

Some progress has been made with the PHIN laser, especially in a better understanding of the amplifier behaviour. For the moment it is still difficult to predict what will be the status at the end of July.

9. A.O.B.:

K. Peach gave a summary of the concerns about the UK funding for Linear Colliders. He mentioned that some studies on generic R&D at low level could continue, which could be seen as an opportunity rather than a threat. In this frame Oxford University and Royal Holloway University could make generic contributions which could be useful for CLIC and CTF3. These institutes have core competences in the following domains:

- High power laser (in particular in the laser wire project)
- BPM and bunch length measurements (experience with SLAC-end station A)
- Fast Feed-Back.

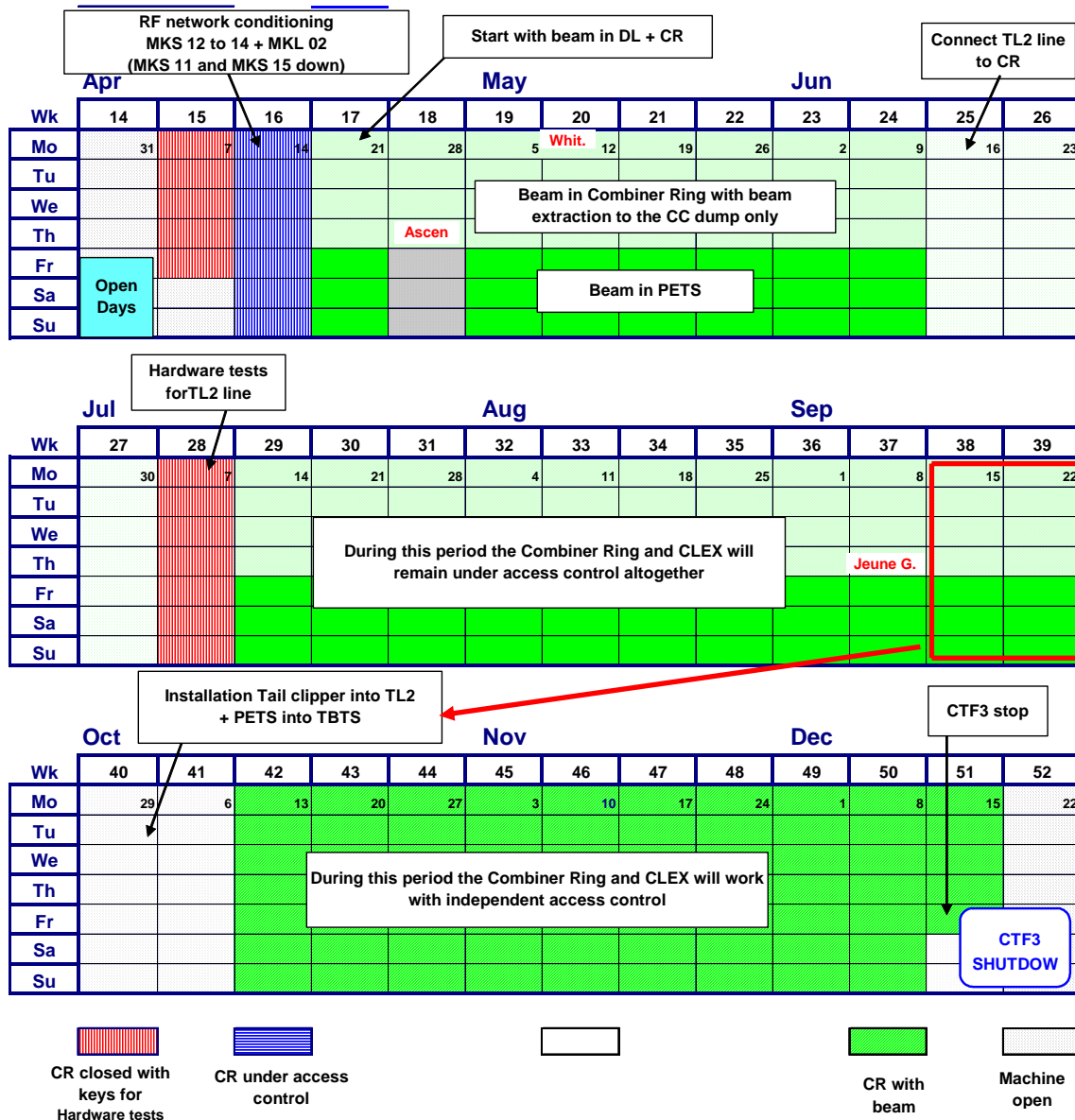
G. Geschonke thanked all participants.

10. Next meeting

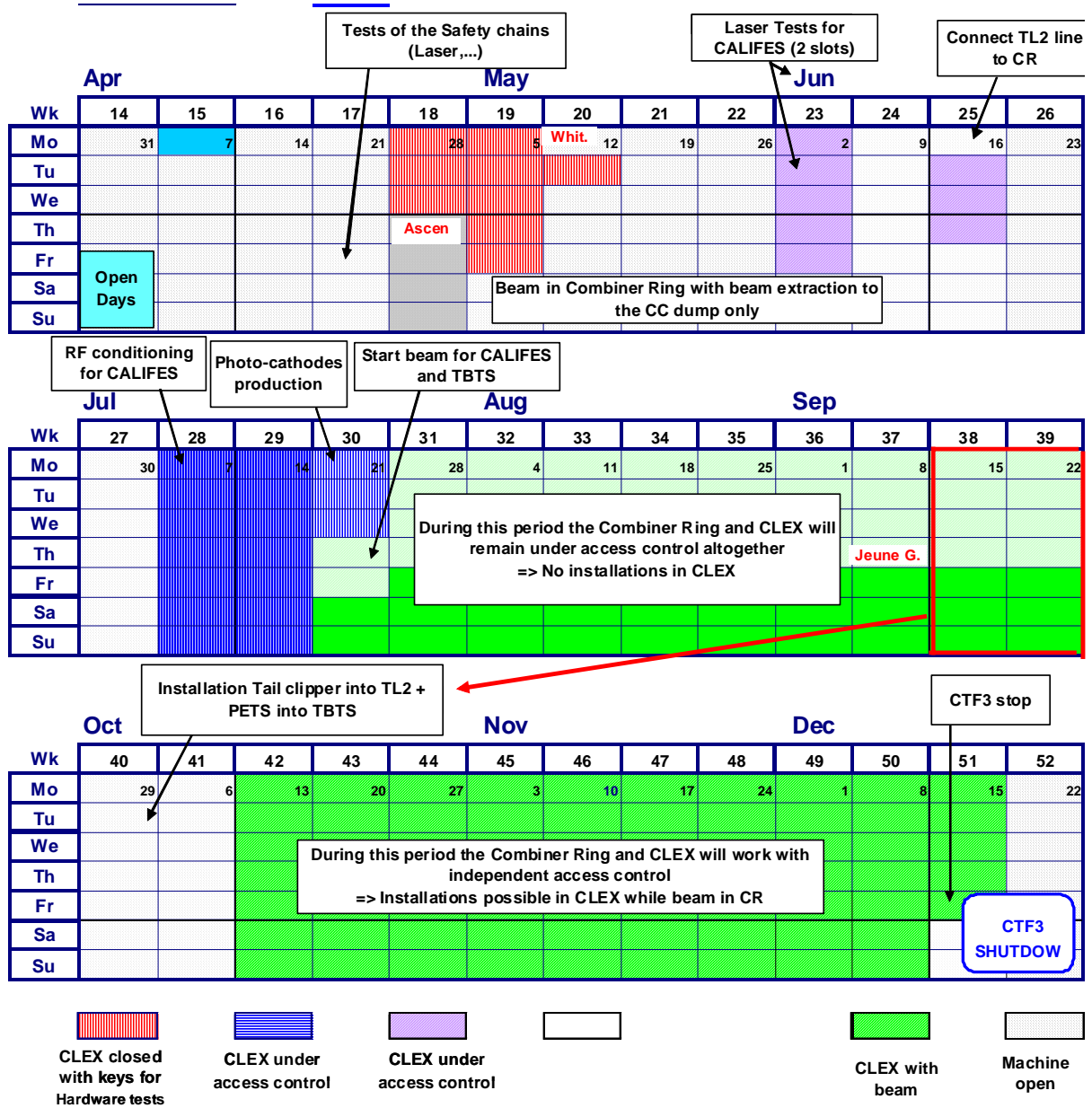
The next meeting will take place at CERN on **Thursday 19 June 2008.**

L. Rinolfi

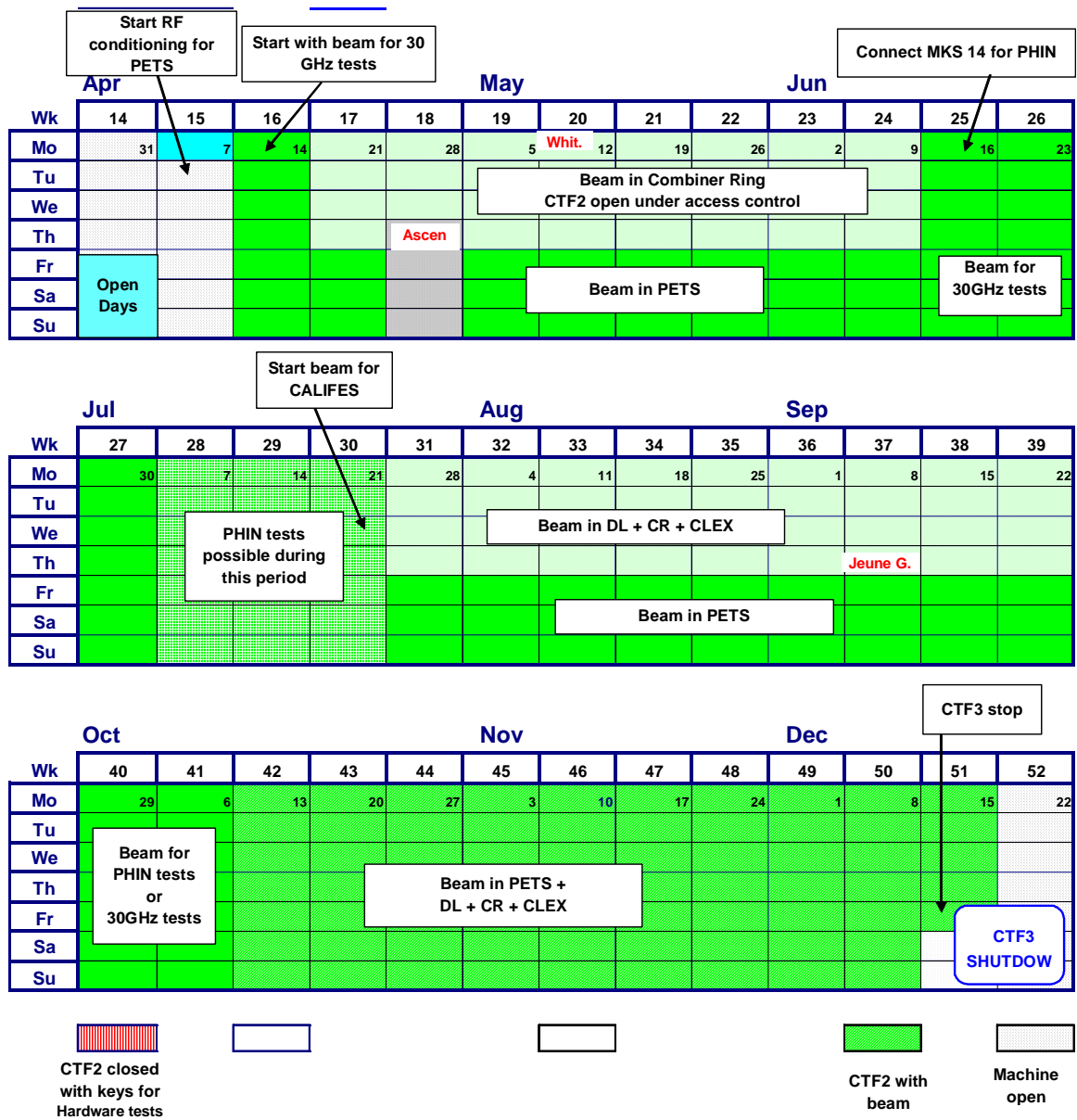
Annex 1: CTF3 Schedule for Combiner Ring and TL2 line



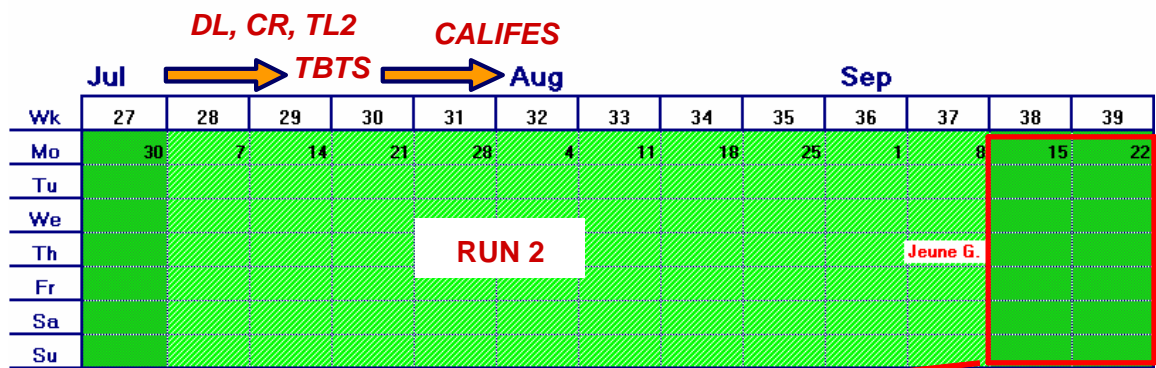
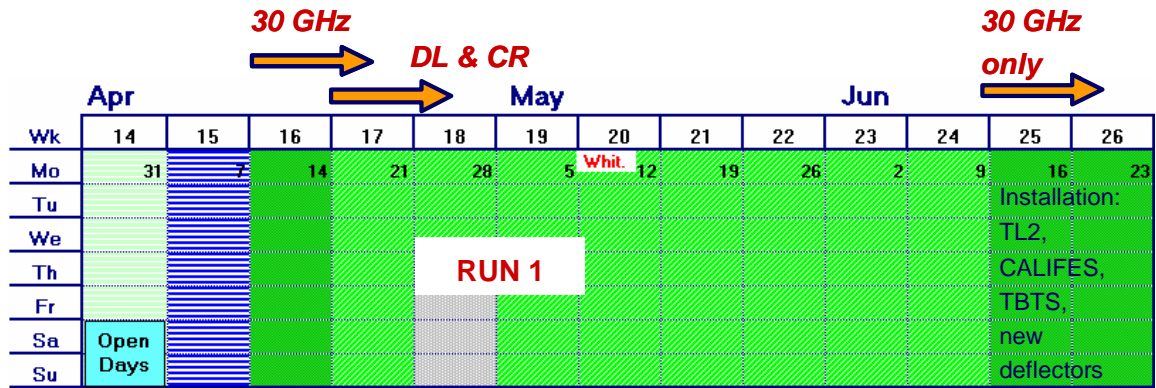
Annex 2: CTF3 Schedule for CLEX



Annex 3: CTF3 Schedule for CTF2



Annex 4: CTF3 Operation Schedule



PETS in TBTS



Linac only

Linac, Ring area, (CLEX)