

## CTF3 Review

Organization / Collaborations / Planning / Status / Budget

G.Geschonke  
CERN / PS

## Organization:

at CERN:

CTF3 is located in the PS division  
**“Matrix” structure,**  
**no CTF3 , (nor CLIC) group**  
**all PS groups participate**

Other CERN divisions:

EST: Survey, central workshops, drawing office

LHC: Vacuum,

ST: Civil engineering

SL: Theory

BOC production,

## Collaborations:

INFN Frascati,

LAL Orsay,

RAL Didcot,

SLAC,

Strathclyde UK

Uppsala University

# Collaborations

## LAL:

gun, HV deck

pre-bunchers

CLIO-type gun for prel. phases already delivered

## SLAC:

triode assembly

Injector optics and layout

## INFN Frascati:

transfer lines, bunch lengthening chicane

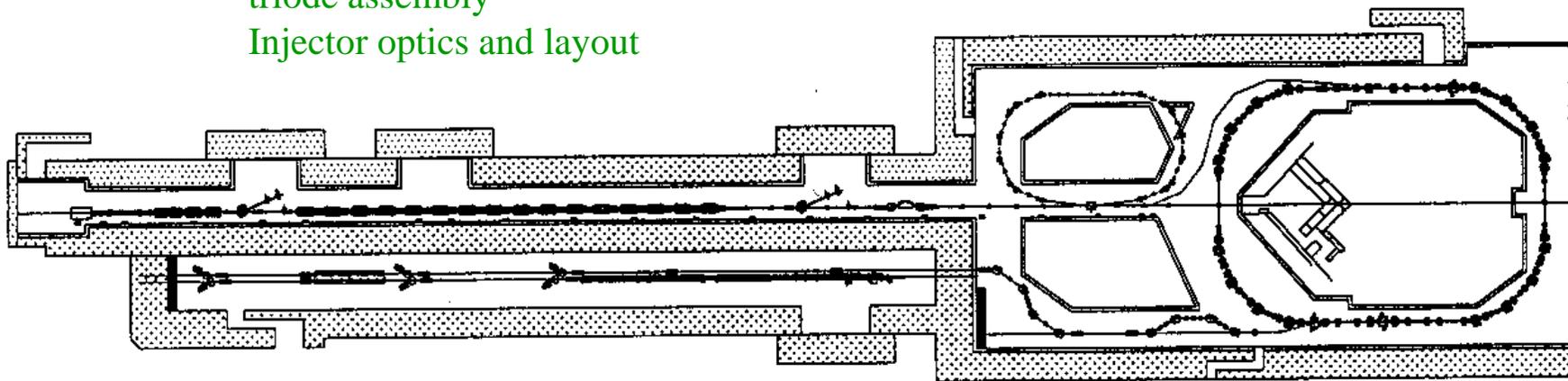
Delay Loop layout and hardware

Combiner Ring layout and hardware

RF deflectors

Fast kickers

Participate in commissioning and exploitation



## RAL and Strathclyde University:

Laser for Photo-Injector option

## Uppsala University:

mm wave detector for beam diagnostics

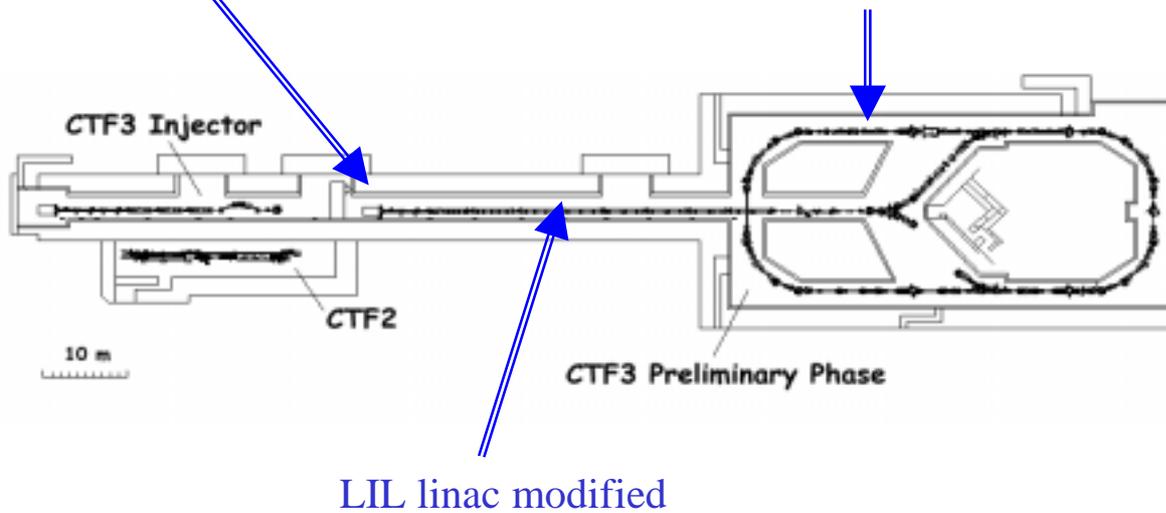
participation in commissioning

## Status

### *Preliminary Phase*

New e-gun (CLIO type) delivered by LAL, installed and commissioned

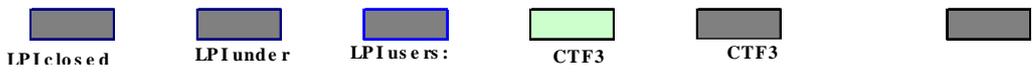
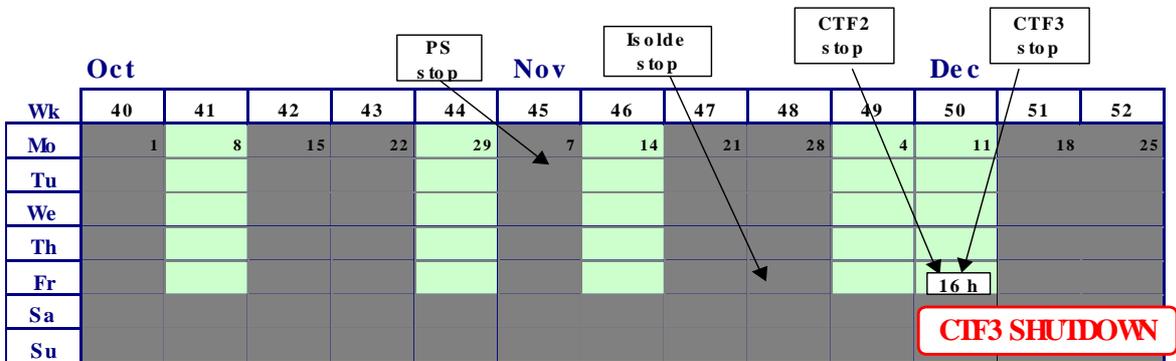
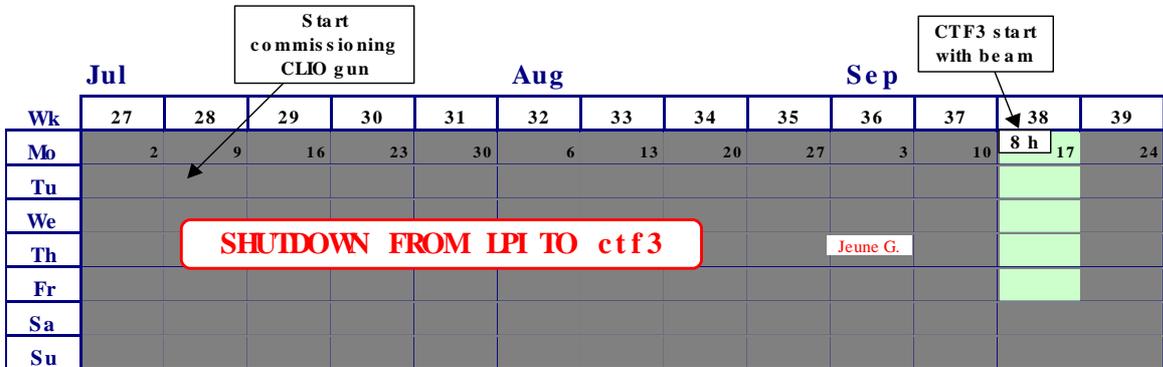
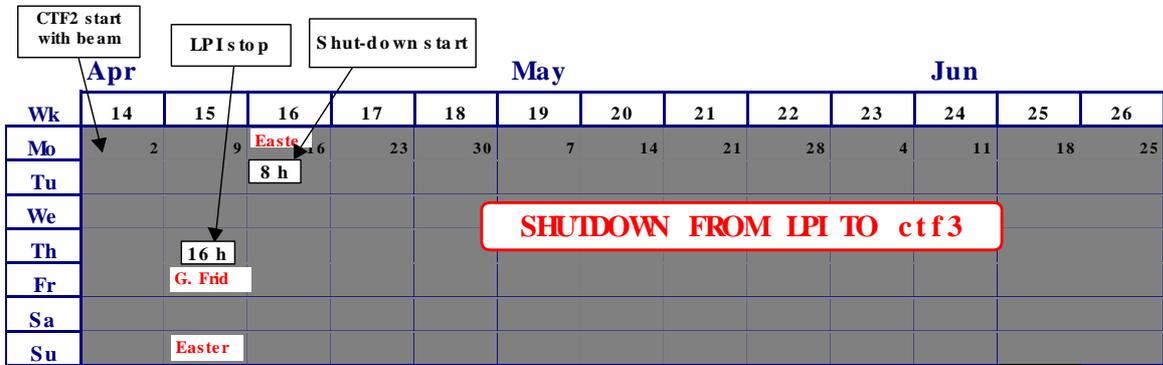
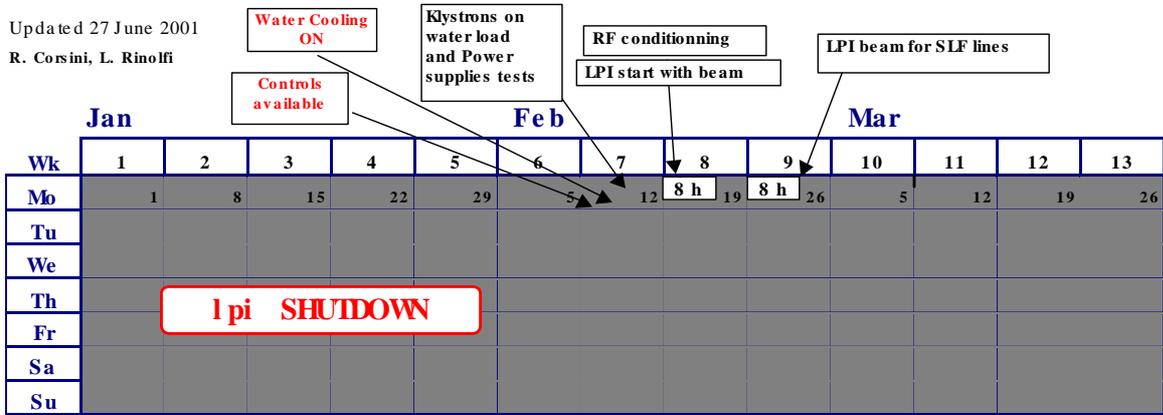
EPA ring modified, circumference changed, transfer lines modified



- Machine closed as planned on 17. September 2001
- Beam up to end of linac in first week of commissioning.
- Presently missing components being installed,
- Commissioning will continue
- Part of the operation schedule of the PS complex

# 2001-LPI/ CTF2/ CTF3

Updated 27 June 2001  
R. Corsini, L. Rino Iffi



# 2002 - CTF 3 / CTF 2

12 September 2001

Controls available
Water Cooling ON
Klystrons on water load and Power supplies tests
RF conditioning

		Jan					Feb					Mar		
Wk		1	2	3	4	5	6	7	8	9	10	11	12	13
Mo			7	14	21	28	4	11	18	25	4	11	18	25
Tu	#####													
We														
Th														
Fr														
Sa														
Su														

SHUTDOWN

8 h

G. Frid

		Apr				May						Jun			
Wk		14	15	16	17	18	19	20	21	22	23	24	25	26	
Mo	Easter	1	8	15	22	29	5	12	Whit. 19	26	4	11	18	25	
Tu	(*)														
We						1 May									
Th						Ascen.									
Fr															
Sa															
Su															

CTF2 start with beam

CTF3 start with beam

		Jul			May						Jun			
Wk		27	28	29	30	31	32	33	34	35	36	37	38	39
Mo		1	8	15	22	29	6	13	20	27	3	10	17	24
Tu														
We														
Th											Jeune G.			
Fr														
Sa														
Su														

		Oct				Nov				Dec				
Wk		40	41	42	43	44	45	46	47	48	49	50	51	52
Mo		1	8	15	22	29	5	12	19	26	2	9	16	23
Tu														
We														
Th														
Fr														
Sa														
Su														

PS stop

CTF2 stop

CTF3 stop

16 h

SHUTDOWN

CTF3 closed
 CTF3 under access
 CTF3
 CTF2
 Shutdown

## *Nominal (and initial) phase*

### **Thermionic Injector**

Triode assembly delivered by SLAC

Work on Gun started at LAL

Design of Pre-bunchers under way at LAL

Beam dynamics of injector nearly complete (SLAC)  
detailed layout started

Travelling wave buncher (CERN)  
fabrication well advanced at CERN

Solenoids (CERN)  
design well advanced

Sub-harmonic buncher (CERN)  
design started

### **Photo Injector Option**

high current tests of photo cathodes successful

test of diode pumped high power laser amplifier  
well advanced

# **Drive Beam Accelerator (DBA)**

## **Accelerating structures**

### **TDS**

prototype built, tested with RF power

### **SICA**

Short section built and tested with High RF power

Full size structure being built at CERN

CERN FC has authorized to place a contract with industry for  
18 SICA structures

## **DBA optics**

Layout finished, detailed mechanical design to be done.

Beam Instrumentation well advanced

## **RF power sources**

### **3 GHz**

45 MW klystron ordered, add. modulator built

RF Pulse compression:

long pulse power tests with promising result (LIPS):  
up to 60 MW, limited by RF load

BOC cavity built, low power tested,  
new design finished, prototype under construction

### **1.5 GHz**

narrow band klystron ordered,  
design study in October

wide band klystron:

design study received,  
call for tender for klystron under preparation.

## **Transfer Lines**

Design well advanced,  
all existing magnets

Chicane designed

## **Delay Loop**

optics design well advanced, nearly frozen

1.5 GHz deflector study is progressing

## **Combiner Ring**

optics finished

vacuum components being designed, impedance !!

prototyping of HV kicker and pulser progressing

BPM under development, choice fixed

3 GHz RF deflector being designed,  
cold model in fabrication,  
offers for “real” structures”, fabrication in 5 / 7 months,  
installation in prel. phase possible during 2002.