TTF2: Final Installation

M. Körfer for the TTF2 Team

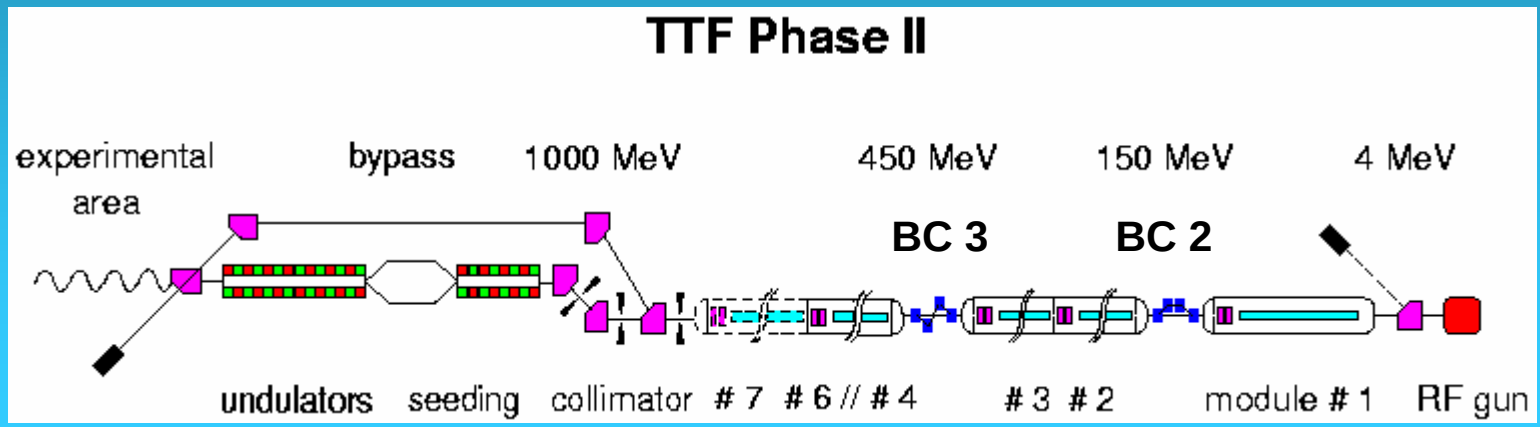
TTF2 Overview

schedule ACC1 / injector commissioning

time consuming installations

Milestones for installation / commissioning

TTF2 Overview



	TTF 2
Normalized emittance from injector (1 nC)	1.2 mrad mm
Norm. emittance at undulator entrance	2 mrad mm
Beam size in undulator	65 μm
Bunch length (rms)	150 fs
Peak current	2500 A
Long. emittance $\sigma_E \times \sigma_I$	40 mm keV

TTF2: Next Steps

04.02 gun ready for operation without beam
04.02– 08.03 tunnel 16 h/day closed

10.02--01.03 ACC1 installation inside tunnel
10.02 close tunnel roof

12.02 vacuum system completed
except ACC1 and temp. beamline ACC6

12.02– 03.03 final survey and alignment of entire accelerator
cabling of containers

04.03 gun ready for operation with beam
08.03 ACC1 prepared for cool down

TTF2: Next Steps

08.03 BC2-FODO section ready for beam operation
30.03 gun operation with beam finished

20.04 ACC1 commissioning finished
coupler processing warm, cold
cavities on resonance tested

21.04 start beam through ACC1
07.06 end injector run (part 1)

Final installation (beam operation up to dump)

02.04 ACC3-ACC5 commissioning finished
coupler processing warm, cold
cavities on resonance tested
15.04 LLRF ready for beam operation

07.06 BIS Beam Inhibit System ready
21.06 timing system installed
21.06 interlock system HF / Linac tunnel ready

30.07 diagnostic (BPM,OTR,...) in operation without beam
hardware and software tested

Final installation (beam operation up to the dump)

23.08 all power supply controller PSC in operation
25.08 all “Heidbrook” power supplies available for beam operation (cold/warm steerer; cold, warm quadrupols)

Conclusion

26.08 TTF2 accelerator ready for beam operation

TTF2: Milestones

Task	Milestone	Milestone date	Update
Commissioning of accelerating modules ACC 3,4,5 incl. proof of max. gradient	Modules commissioned	15.9.2003	
Vacuum system entire machine	Vacuum closed	12. 2. 2004	12.02
Commissioning injector up to ACC2 incl. commissioning modules ACC1 and ACC2	First beam up to ACC2	8. 4. 2004	21.04
Installation of remaining components	**all** installations completed	9. 7. 2004	26.08
Commissioning entire machine, except for collimator and undulator	First beam through bypass into dump	30. 7. 2004	16.09
Commissioning of collimator and undulator beamline	First beam through undulator into dump	13. 8. 2004	30.09
Commissioning photon diagnostics in the tunnel	Beam intensity and spectrum of spontaneous radiation	27. 8. 2004	