

BDS/MDI Session at TILC08

T. Tauchi, 25th February 2008

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Dear Colleagues,

Among **the cost reduction measures**, which we plan to discuss in GDE cost reduction sessions, are the following:

--change BDS to 250GeV/beam maximum;

--merge the main and tune-up dumps relying on micro-tunneling;

--remove all upstream E and polarization diagnostics in BDS and rely only on downstream (which does not add length to the site);

Please comment or prepare to discuss.

Andrei

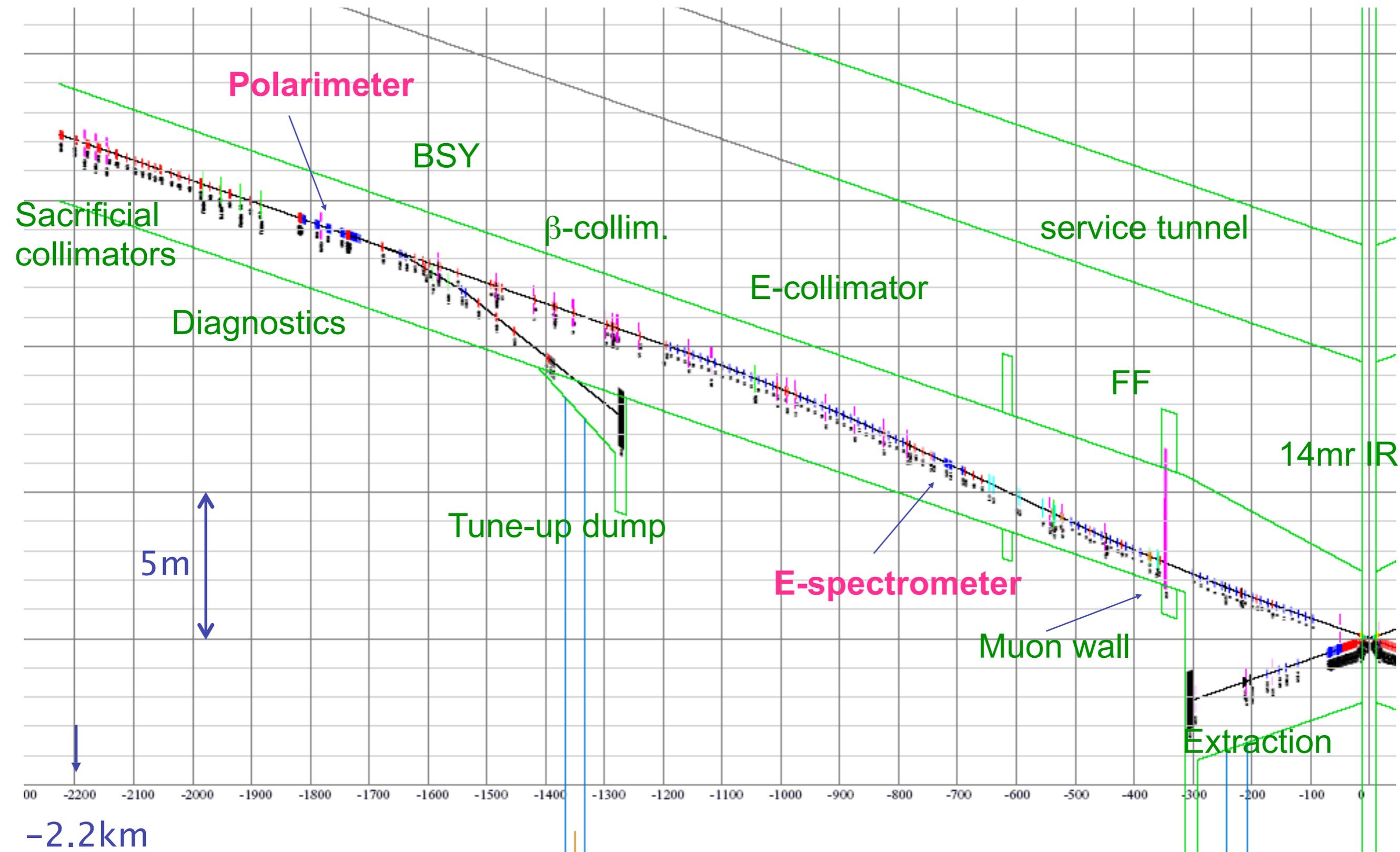
Updates of BDS-MDI sessions at TILC08, Sendai

25 February, 2008

	Program GDE BDS (ACFA MDI)	Talks / lead discussions	Critical and strategic questions, or comments
4th, 9:00-10:30	Strategy, program and planning ACFA plenary in para.	GDE schedule updates (IDAG -- LOI schedule)	How to organize tasks in two phases, 2010 and 2012 Cost reduction - 250GeV, E&P only at extraction line, common dump
4th, 11:00-12:30 MDI-BDS	IR	Brett -- Update on FD Markiewicz -- SiD MDI etc TBD-- how L* dep. included in det optimiz Grah -- FCAL beam diagnostics Itoh - Pair monitor performances ?	position adjustment system and correction coils for QD0 and SD0 CMS-style integration and assembling Luminosity as a function of L* Real time feedback from luminosity measurement Also, the real time monitor
4th, 14:00-15:30 MDI-BDS	Push pull CLIC-MDI	Realistic scheme - frequency and timeline Schulte -- CLIC IR & MDI TBD-- CLIC pars & E and what to keep common TBD -- what should we do for CLIC MDI	Re-commissioning process and timeline for detectors, - keeping warm , monitoring alignment among sub-detectors Common study items of MDI - crossing angle 14mr v.s. 20mr - crab cavity - LHC upgrade ? - collimation - wakefield, survival, crystal channeling - push pull at CLIC ?
4th, 16:00-17:30 BDS	CLIC-non-MDI	Schulte -- CLIC BDS design Schulte -- CLIC extract. & dump Kaefer -- BDS polarimetry	Common study items of BDS - intra-train feedback digital v.s. analog - flight simulator to be developed at ATF2 - instrumentation - BPM, laserwire, feedback, luminometers etc.
5th, 9:00-10:30 MDI-BDS	Background ATF2 YY	Abe -- GLD background Parker -- ATF2 SC FD Suehara -- Shintake IR mon. Takahashi -- yy challenges	Updates of backgrounds in detectors Demonstration of QD0 at ATF2 - jitter, position adjustment system etc. BSM at IP for commissioning ? - crossing angle 20mr ? : good for CLIC
5th, 11:00-12:30 BDS	IR integration plans	TBD -- what IR integ we do & when Coe - Monalisa ? Bambade - 2mr angle crossing scheme	Re-commissioning process and timeline Nanometer monitoring at IP Alternative - small angle crossing option studies - (permanent magnet for final doublet)
5th, 14:00-15:30 BDS	CLIC-ILC work planning	Draft a work plan	
5th, 16:00-17:30 BDS	Work out suggn for Concepts	Finalize IR integration work plan	
17:40 - 18:10	go to MultimediaComplex	Show plan to concepts in 17:40 - 18:10	Detector Concept group meetings in parallel : SiD and ILD



BDS beam-line layout



Construction start : LCWS07 new-GDE ? CLIC,ART

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	EDR			Approval		Construction						Commiss.	
Constraints				LHC physics	total length frozen		tunnel & optics layout frozen		optics details frozen		tunnels ready for install-n		
Beam dumps	beam dump conceptual design and critical tests			pre approval		beam dump final engineering			b.dump design frozen	beam dump construction		beam dump installed	
crab cavity	design, build & test of conceptual phase control system; cavity fabrication; conceptual cryostat design; LLRF develop and test with single cells			design of cryostat; cavity integration; beam test of one cavity		beam tests of two cavities		final engineering		production		installed	
ATF2	ATF2 construction and installation. Start of commissioning		Commissioning	Beam size and optics results	Beam stability results	2nd phase, e.g. SC FD; smaller emittance & beam size		Instrumentation developments and tests at beamline					
Final Doublet	Engineering design; full length prototype; stability design study and initial stability tests			Stability tests & design optimization		final design		production		lab tests	installation and pre-commissioning		
Detectors	Conceptual design; selection of two concepts; continue design			Design optimization		final design and start of production		Construct, assemble and pre-commission on surface			Lower down & commiss.		
IR integrated	Conceptual eng. design of IR vacuum chambers; supports; pacman and moving shielding; cryogenic; service platform; detector moving system; cranes; etc.			Detailed eng. design of integrated IR with finalized choice of two detectors for final design		final design and start of production		production			installation and pre-commissioning		
Magnets	Optimization of number of styles; conceptual design of most magnets; definition of interfaces; Detailed design of low field and other special magnets; Vibration -wise design			Design and cost optimization; layouts with real space allocation, and detailed interfaces.		final design & needed prototypes		production			installation and pre-commissioning		
Collimation	Tests of collimation wakefields and beam damage tests; conceptual eng. design			Detailed eng. design; optimization & integration into beamline		final design & pre-production prototypes		production			installation and pre-commissioning		
Instrumentation	Develop laser wires; test feedback BPMs with secondary beam; conceptual eng. design			Detailed eng. design; optimization & integration into beamline		final design & pre-production prototypes		production			installation and pre-commissioning		
Vacuum system	Physics and conceptual eng. design. Detailed design of IR vacuum chamber.			Detailed eng. design; optimization & integration of beamlines		final design		production			installation		

Overall tentative schedule
As of April - May 2007