Project Status & CabibboLab

Marcello A. Giorgi

Università di Pisa & INFN Pisa

2nd SuperB Collaboration & General Meeting

LNF December 13,2011

Outline

- Physics program refined by a great physics community.
- Detector community in a good shape.
- Accelerator structure under construction.
- Move towards TDR's.
  - CabibboLab exists.
- Future goals.

The Results from2011 Summer Conferences make stronger the SuperB physics program

Goals:

Probe new physics observables in wide range of decays.

- Pattern of deviation from Standard Model can be used to identify structure of new physics.
- Clean experimental environment means clean signals in many modes.
- Polarised e^- beam benefit for τ LFV searches, CPV and g-2.

The SuperB answer is largely contained in a recent document

arXiv:1109.5028v2 [hep-ex] 19 Oct 2011

INFN/AE_11/1, LAL-11-200, SLAC-R-14548, MZ-TH/11-25

The impact of Super$B$ on flavour physics

July 1, 2011

Abstract

This report provides a succinct summary of the physics programme of Super$B$, and describes that potential in the context of experiments making measurements in flavour physics over the next 10 to 20 years. Detailed comparisons are made with Belle II and LHCb, the other B physics experiments that will run in this decade. SuperB will play a crucial role in defining the landscape of flavour physics over the next 20 years.

After London Meeting (on physics)

•Workshop on Charm at Threshold **(Beijing October 20-22)**

•Workshop on High Intensity Frontier **(Rockville Nov 30-Dec 2)**

The lesson from High Intensity Workshop

1. Heavy Quarks
2. Charged Leptons
3. ….
4. …
5. Neutrinos

The lesson from Charm Workshop

Search for new physics beyond Standard Model, overcome the non-perturbative QCD roadblock, test pQCD calculations.
search for new physics effects in rare or forbidden decays;
remove Dalitz model dependency in D^0 mixing and CP violation measurements and γ/Φ_3 measurements.
Precision measurement of $|V_{cs}|$, $|V_{cd}|$ and $D_{(s)}$ form factors/
Precision measurement of decay constants f_D, f_{Ds}.

Systematic errors do not seem to be a roadblock for the relevant measurements and future high statistics data sample will be beneficial.

Trivial consideration on D^0 yields for 1 year SuperB running @Threshold

- 1 year run at Ψ(3770):
  - $n(D^0)$=1.5 ab^{-1}·3.7 nb·2 = $11.1\cdot10^9$

Integrated luminosity

Cross section

Average number of D^0 per event

- 1 year running at Y(4S):
  - $n(D^0)$=15 ab^{-1}·1.3 nb ·0.45= $8.8\cdot10^9$ (from $c\bar{c}$ events only)

TD analysis is possible @ Y(4s) and @threshold, but here in a cleaner environment and with access to more channels .

Charm @ SuperB

- *Run at Υ(4S):* $\mathcal{L} = 10^{36}\ \mathrm{cm^{-2}\,sec^{-1}}$; $\int \mathcal{L}\,dt = 75\ \mathrm{ab^{-1}}$ at the $\Upsilon(4S)$
  βγ=0.237

✓ Large improvement in D^0 mixing and CPV: factor 12 improvement in statistical error wrt BaBar (0.5 ab^{-1});
✓ time-dependent measurements will benefit also of an improved (2x) D^0 proper-time resolution. [≈1KHz of $c\bar{c}$]

Unique feature of SuperB

- *Run at ψ(3770):* $\mathcal{L} = 10^{35}\ \mathrm{cm^{-2}\,sec^{-1}}$; $\int \mathcal{L}\,dt =$ 500 fb^{-1} 1 ab^{-1} at $\Psi(3770)$

  βγ from 0.237 to 0.56 (and polarization)

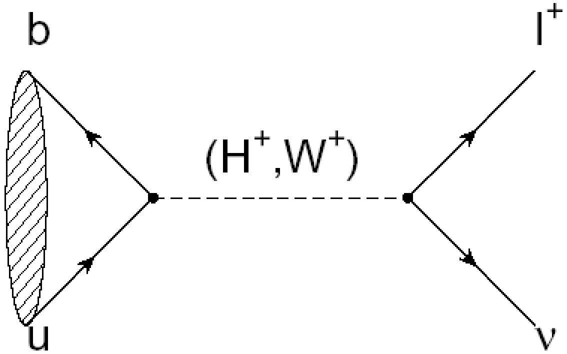
✓ $D\bar{D}$ coherent production with 100x BESIII data and CM boost up to βγ=0.56;
✓ almost zero background environment;
✓ possibility of time-dependent measurements exploiting quantum coherence
✓ Study CPV with Flavour and CP tagging.

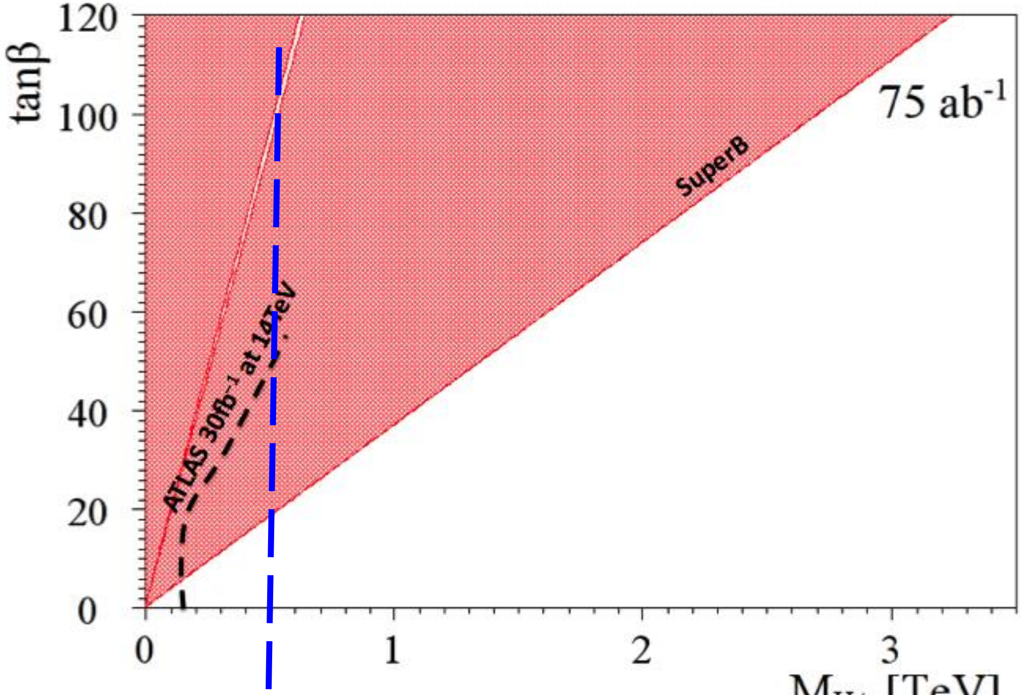
Some golden

$B_{u,d}$ physics: Rare Decays

- Example: $B^{\pm} \to \ell^{\pm}\nu$
  - Rate modified by presence of H^+

$$r_H = \frac{\mathcal{B}_{SM+NP}}{\mathcal{B}_{SM}}$$





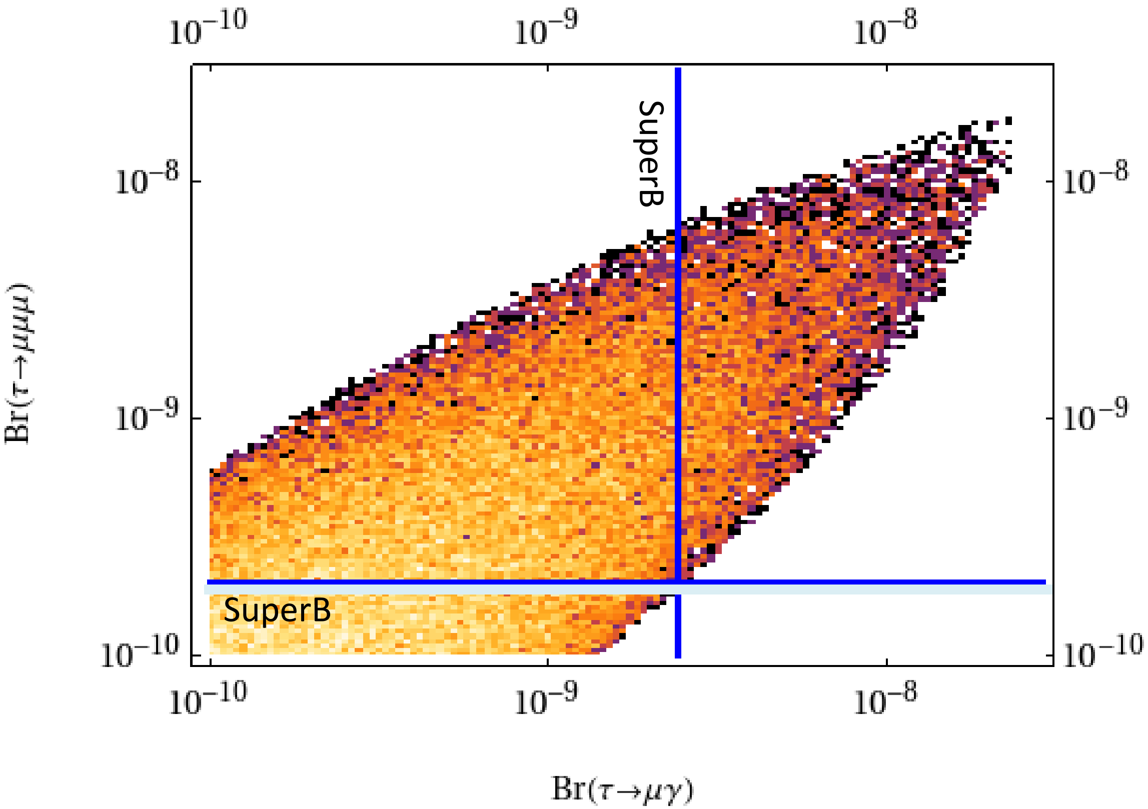
$$r_H = \left(1 - \frac{m_B^2}{m_H^2}\tan^2\beta\right)$$

Currently the inclusive $b \to s\gamma$ channel excludes $m_{H+} < 295\ \mathrm{GeV}/c^2$.

The current combined limit places a stronger constraint than direct searches from the LHC for the next few years.

The golden LFV $\tau \to \mu\gamma, 3\mu$ modes

- Symmetry breaking scale assumed: 500GeV.



c/o M. Blanke

NP scale assumed: 500GeV.

Current experimental limits are at the edges of the model parameter space

SuperB will be able to significantly constrain these models, and either find both channels, or constrain a large part of parameter space.

M. Blanke et al. arXiv:0906.5454

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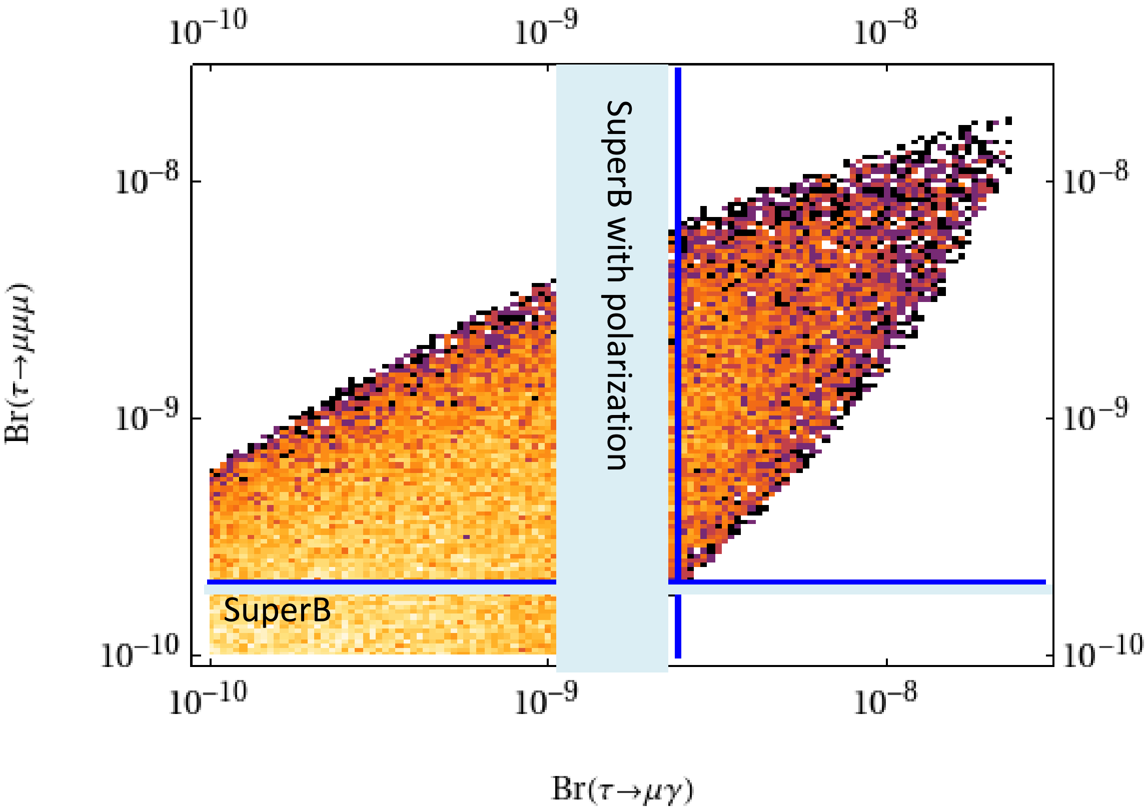

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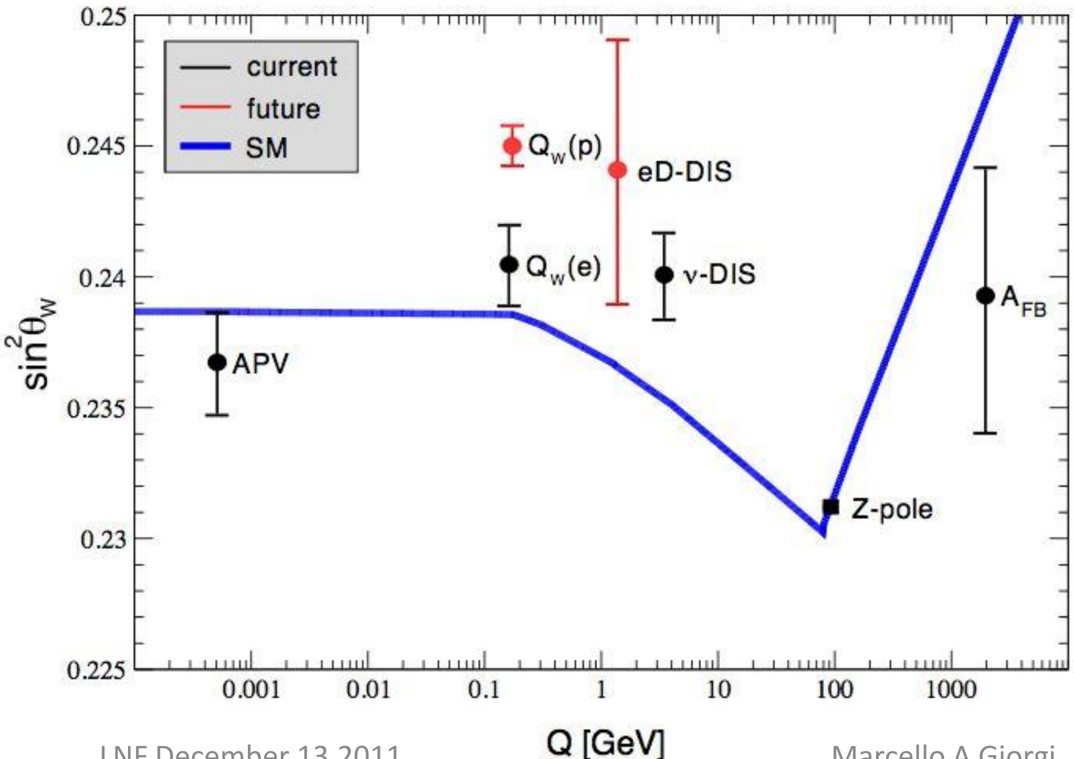
POLARIZATION: Precision Electroweak

- $\sin^2\theta_W$ can be measured with polarised e^- beam at $\sqrt{s}=\Upsilon(4S)$ is theoretically clean, c.f. b-fragmentation at Z pole



Measure LR asymmetry in

$$e^+e^- \to b\bar{b}$$

$$e^+e^- \to \mu^+\mu^-$$

$$e^+e^- \to \tau^+\tau^-$$

at the Υ(4S) to same precision as LEP/SLC at the Z-pole.

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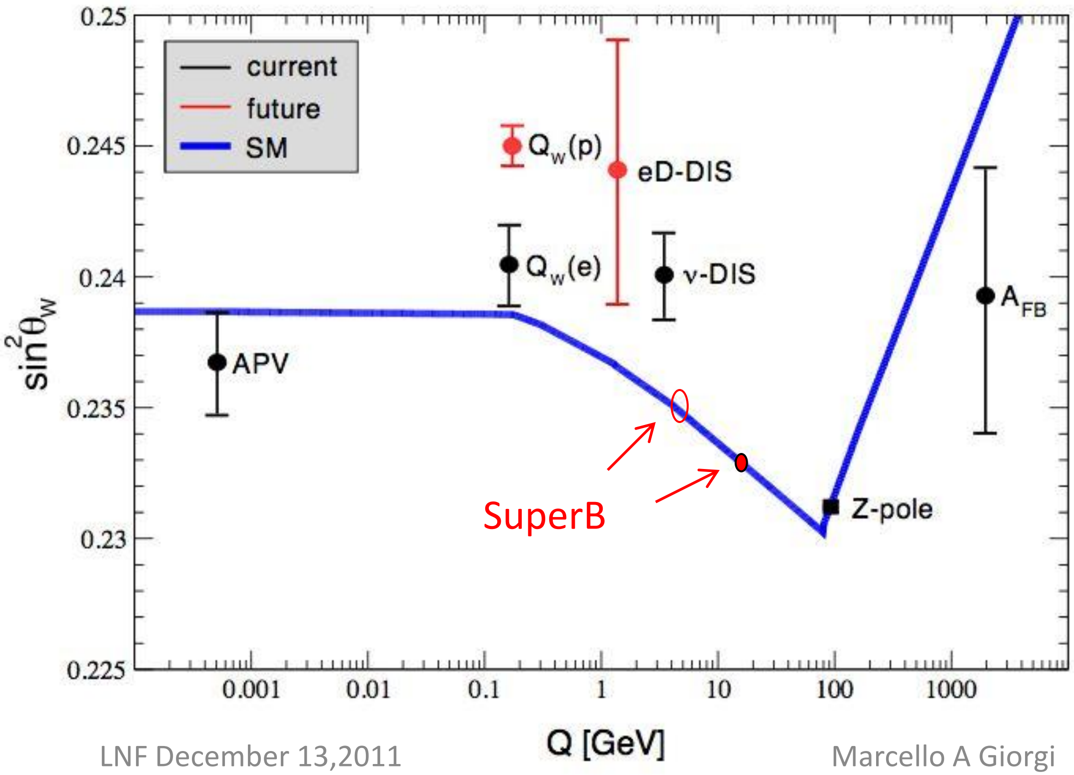

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✓ $D\bar{D}$ coherent production with 100x BESIII data and CM boost up to $\beta\gamma=0.56$;
✓ almost zero background environment;
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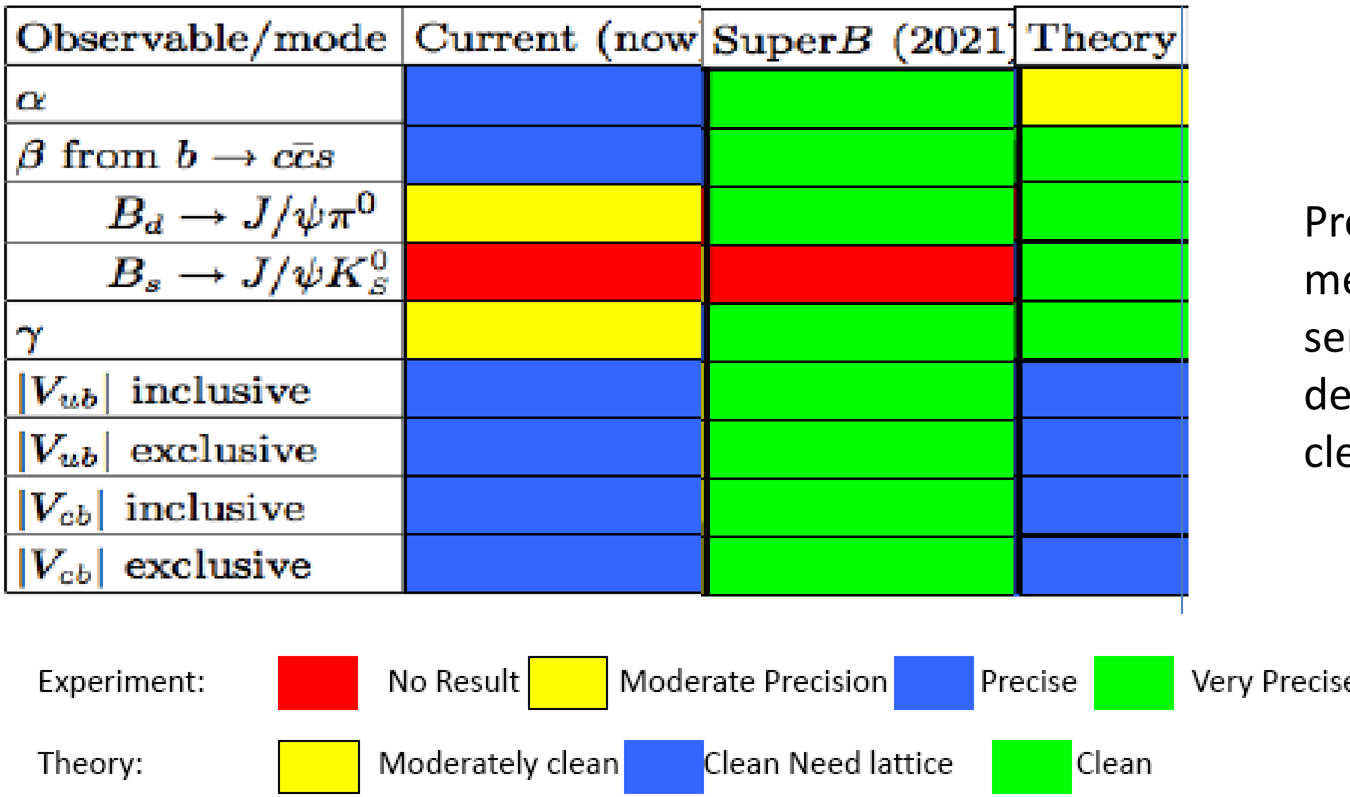
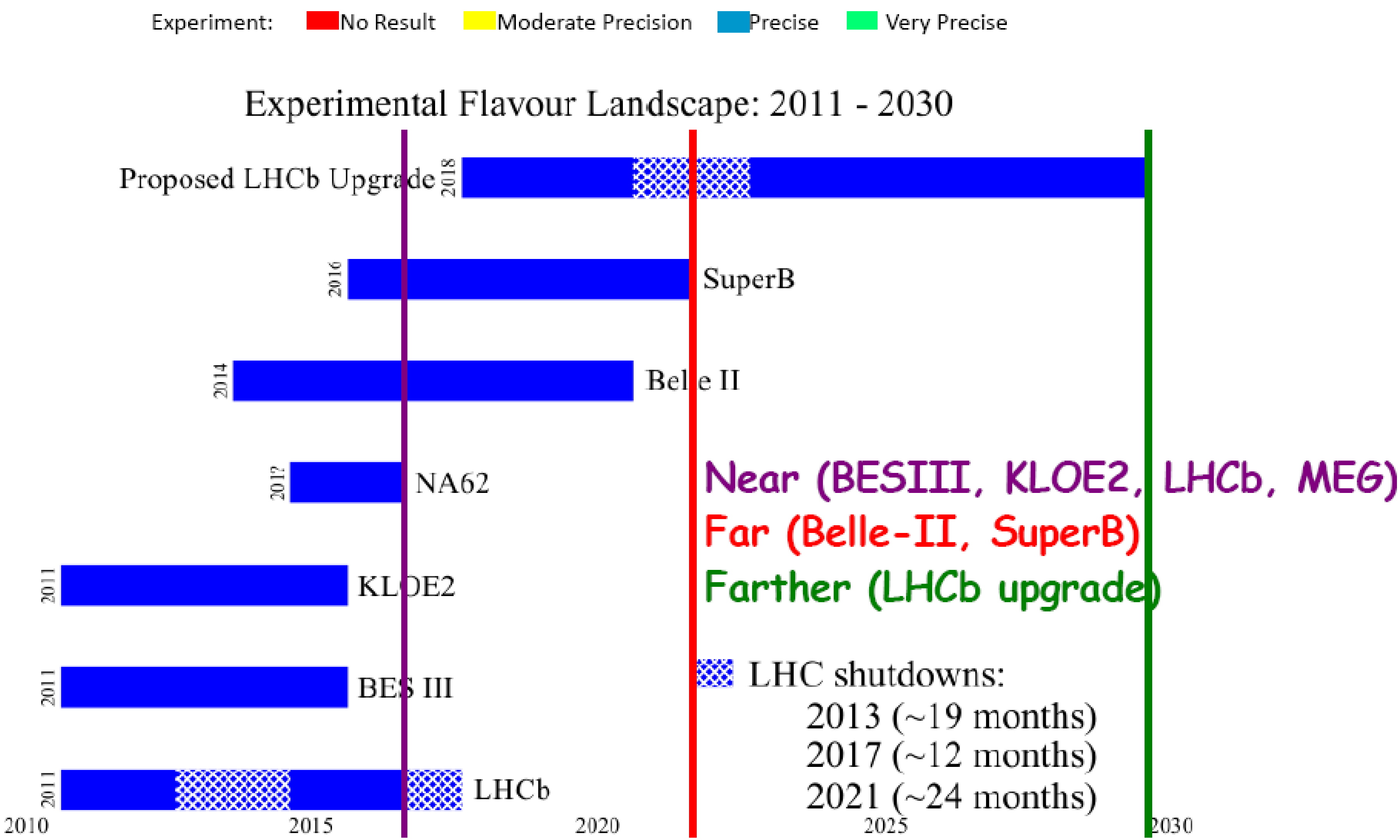
Nevertheless: Golden Measurements of CKM



Precision measurements with semileptonic B decays only in e+e- clean environment.



Dates that matter are when full samples are collected

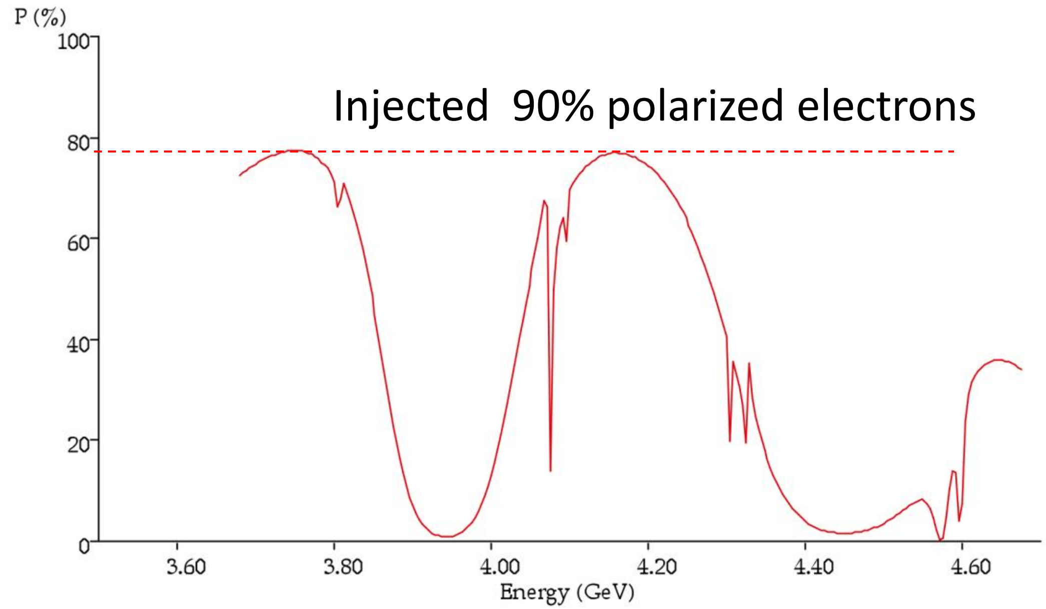
REQUIREMENTS FROM PHYSICS

Parameter	Requirement	Comment
Luminosity (top-up mode)	10^{36} cm^{-2}s^{-1} @ $\Upsilon(4S)$	Baseline/Flexibility with headroom at 4. 10^{36} cm^{-2}s^{-1}
Integrated luminosity	75 ab^{-1}	Based on a "New Snowmass Year" of 1.5 x 10^{7} seconds (PEP-II & KEKB experience-based)
CM energy range	τ threshold to $\Upsilon(5S)$	For Charm special runs (still asymmetric……)
Minimum boost	$\beta\gamma$ ≈0.237 ~(4.18x6.7GeV)	1 cm beam pipe radius. First measured point at 1.5 cm
e^- Polarization Boost up to 0.56 in runs at low energy under evaluation for charm physics	≥80%	Enables τ *CP* and *T* violation studies, measurement of τ *g*-2 and improves sensitivity to lepton flavor-violating decays. Precise measurements of $\sin^2\theta_W$.

Baseline Collider parameters

		Base Line	
Parameter	Units	HER (e+)	LER (e-)
LUMINOSITY (10^{36})	cm^{-2} s^{-1}	1	
Energy	GeV	6.7	4.18
Circumference	m	1258.4	
X-Angle (full)	mrad	60	
Piwinski angle	rad	20.80	16.91
β_x @ IP	cm	2.6	3.2
β_y @ IP	cm	0.0253	0.0205
Coupling (full current)	%	0.25	0.25
ε_x (without IBS)	nm	1.97	1.82
ε_x (with IBS)	nm	2.00	2.46
ε_y	pm	5	6.15
σ_x @ IP	μm	7.211	8.872
σ_y @ IP	μm	0.036	0.036
Σ_x	μm	11.433	
Σ_y	μm	0.050	
σ_L (0 current)	mm	4.69	4.29
σ_L (full current)	mm	5	5
Beam current	mA	1892	2447
Buckets distance	#	2	
Buckets distance	ns	4.20	
Ion gap	%	2	
RF frequency	MHz	476	
Harmonic number		1998	
Number of bunches		465	
N. Particle/bunch (10^{10})		5.08	6.56
Tune shift x		0.0026	0.0040
Tune shift y		0.1067	0.1069
Long. damping time	msec	13.4	20.3
Energy Loss/turn	MeV	2.11	0.865
σ_E (full current)	δE/E	6.43E-04	7.34E-04
CM σ_E	δE/E	5.00E-04	
Total lifetime	min	4.23	4.48
Total RF Power	MW	16.38	

The baseline peak luminosity at Y(4s) is 1.0 10^{36} cm^{-2} s^{-1} .
It ca be increased by adding RF power up to a factor of 4 .
The runs near charm threshold Ψ(3770) pay a factor O(10) in luminosity.
At charm threshold the boost($\beta\gamma$) can be increased up to 0.5 for time dependent measurements , still with a reasonable polarization.

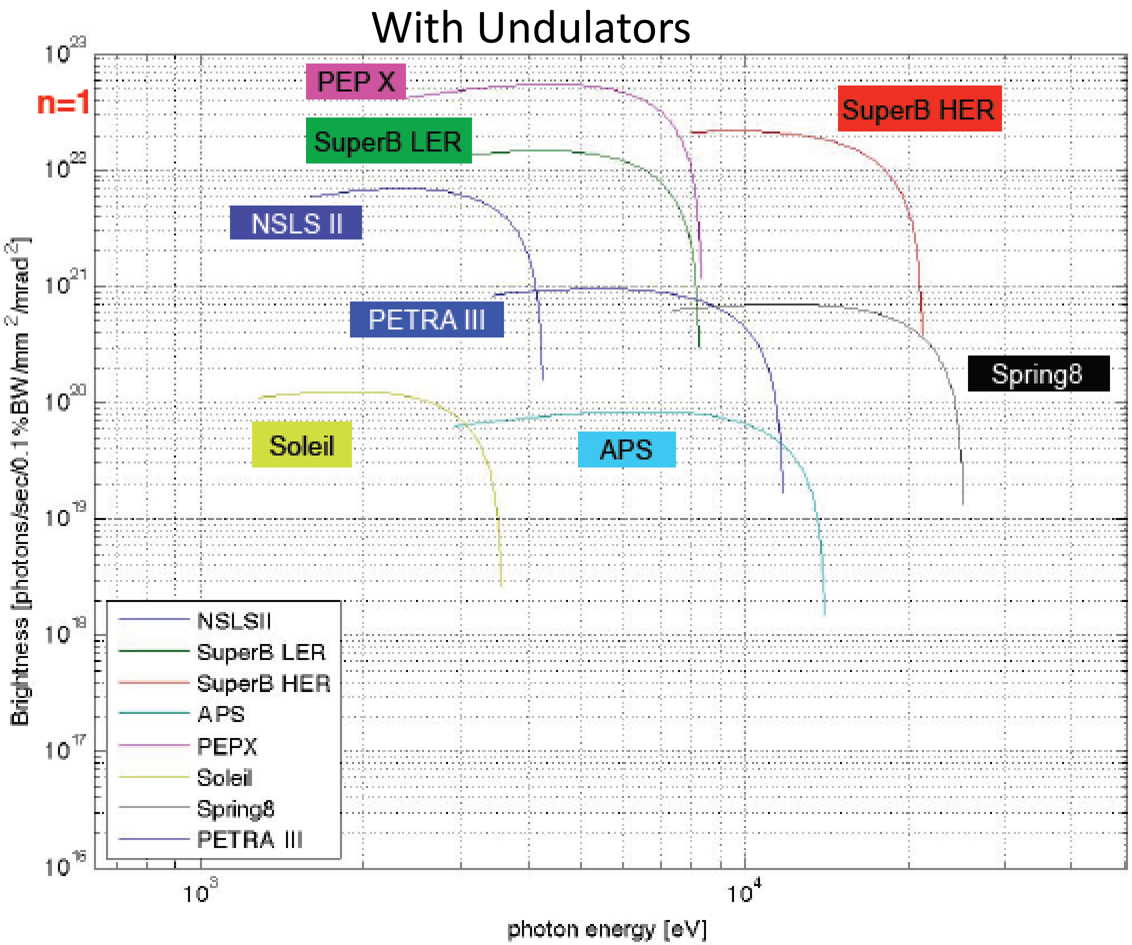


3.5 min beam lifetime . ➡ CONTINUOUS INJECTION as in PEPII

Synchrotron light options @ SuperB

- Comparison of brightness and flux for different energies dedicated SL sources & SuperB HER and LER with undulators.
- Light properties from undulators better than most SL

Parameters *	SuperB HER	SuperB LER	NSLS II
	IVU20	IVU20	IVU20
E [GeV]	6.7	4.18	3
I [mA]	1892	2447	500
σx [mm]	60.0 E-3	66.5 E-3	33.3 E-3
σy [mm]	2.4 E-3	2.6 E-3	2.9 E-3
σx' [mrad]	33.3 E-3	37.0 E-3	16.5 E-3
σy' [mrad]	2.1 E-3	2.7 E-3	2.7 E-3
N [1]	148	148	148
λu [mm]	20	20	20
Kmax [1]	1.83	1.83	1.83
Kmin [1]	0.1	0.1	0.1



From CDR2 (September 27,2010)

The SuperB accelerator budget costs are shown in Table 26.1 listed to Work Breakdown Structure WBS level 2. These costs will depend somewhat on the specific site chosen and economic factors at the time of project approval.

The SuperB facility costs for the site and utilities are shown in Table 26.2 listed to WBS level 3. These costs will depend somewhat on the specific site chosen for the collider and local economic factors at the time of project approval.

Table 26.1: Accelerator budget estimate

WBS	Item	Number of units	EDIA (mm)	Labor (mm)	M&S (k€)	Total (k€)	Repl. Value (k€) (not in total)
2.00	**Overall SuperB Accelerator total**		**3159**	**2852**	**285350**	**357476**	**85760**
2.01	**Contingency and VAT (50%)**		**1053**	**951**	**95117**	**119159**	**0**
2.02	**Overall Super B Project Sub-total**		**2106**	**1901**	**190233**	**238317**	**85760**
2.03	Project management and admin	15 man-yr	180	0	400	2560	0
2.03	Accelerator physics	10 man yr	120	0	200	1640	0
2.10	**HER Ring Total**		**275**	**300**	**30976**	**37876**	**15690**
2.11	Dipole magnets	112	15	19	2265	2673	5100
2.12	Quadrupole magnets	289	35	40	3760	4660	6300
2.13	Sextupole magnets	98	24	20	722	1250	2200
2.14	Dipole steering correctors	290	8	12	90	330	310
2.15	Special magnets	8	15	13	350	686	200
2.16	Vacuum chambers	1250m	50	85	13163	14783	180
2.17	Power supplies and cables	400	48	45	7967	9083	250
2.18	Supports	995	55	36	2485	3577	600
2.19	Abort system and trigger	1	25	30	174	834	550
2.20	**LER Ring Total**		**311**	**352**	**35209**	**43165**	**17070**
2.21	Dipole magnets	356	30	34	5260	6028	8060
2.22	Quadrupole magnets	303	38	46	3540	4548	5200
2.23	Sextupole magnets	98	24	20	575	1103	2020
2.24	Dipole steering correctors	310	8	12	90	330	310
2.25	Special magnets and spin rotators	12	27	45	670	1534	250
2.26	Vacuum chambers	1250m	50	85	13163	14783	180
2.27	Power supplies & cables	500	44	40	7857	8865	200
2.28	Supports	1085	65	40	3880	5140	300
2.29	Abort system and trigger	1	25	30	174	834	550
2.30	**Interaction Region Total**		**139**	**147**	**10020**	**13452**	**0**
2.31	QPM	4	12	13	420	720	0
2.32	QD0	4	15	17	1150	1534	0
2.33	QF1	4	15	17	1240	1624	0
2.34	Solenoids	4	10	12	1100	1364	0
2.35	Vacuum chambers	5	24	24	1245	1821	0
2.36	Power supplies and cables	12	16	12	1085	1421	0
2.37	Mech supports & vibration control	26	14	14	1510	1846	0
2.38	Cryostat and He plant and controls	2	13	17	1720	2080	0
2.39	Lumi&polar monitor & IP feedback	1	20	21	550	1042	0
2.40	**RF System Total**		**119**	**116**	**4378**	**7198**	**41150**
2.41	Cavities	36	14	14	540	876	18200
2.42	Klystrons	15	15	17	420	804	12000
2.43	Circulators	15	8	9	135	339	3000
2.44	Wavequides and Ts	300 m	15	13	270	606	900
2.45	RF loads	30	6	6	80	224	200
2.46	Supports	15	12	14	613	925	100
2.47	Low level RF controls	15	24	22	910	1462	300
2.48	High voltage power supplies	15	11	13	780	1068	6000
2.49	High voltage switch gear	15	14	8	630	894	450
2.50	**Ring Controls and Diagnostics Total**		**252**	**237**	**12465**	**18333**	**6170**
2.51	Control computers & distribution	4	120	80	1600	4000	250
2.52	Power supply controllers	900	18	12	1350	1710	0
2.53	Beam position monitor system	640	16	20	7200	7632	0
2.54	Current monitor & Ibun controller	4	10	8	35	251	270
2.55	Transverse feedback	4	24	30	520	1168	2400
2.56	Longitudinal feedback	2	24	32	470	1142	1900
2.57	Thermo monitor system	1700	14	17	450	822	350
2.58	Tune & synch rad monitor system	6	20	27	760	1324	780
2.59	Beam loss monitor system	200	6	11	80	284	220
2.60	**e-/e+ Sources, Damping Ring Total**		**216**	**234**	**21300**	**26700**	**2680**
2.61	Laser for source	1	12	14	350	662	100
2.62	e- polarized source	1	14	16	190	550	350
2.63	Buncher	1	8	8	380	572	650
2.64	e+ target & capture section	1	14	9	780	1056	880
2.65	Damping ring magnets & supports	60	48	40	8700	9756	0
2.66	Damping ring vacuum chambers	1	28	40	3500	4316	0
2.67	Damping ring RF	1	16	20	400	832	400
2.68	Transport lines, kickers, septa	1	36	37	3300	4176	300
2.69	Controls, pwr supplies, diag, cable	1	40	50	3700	4780	0
2.70	**Linac Total**		**164**	**186**	**48235**	**52435**	**300**
2.71	Accelerating structures	100	36	48	20000	21008	0
2.72	Klystrons	33	10	18	6600	6936	0
2.73	Waveguides, splitters, loads	800 m	15	12	2000	2324	0
2.74	Vacuum system	400 m	18	20	2300	2756	0
2.75	Mechanical supports	380	20	10	2600	2960	0
2.76	Quadrupole magnets	32	12	14	640	952	200
2.77	Steering dipoles	32	5	6	65	197	100
2.78	Klystron modulators	33	18	18	8250	8682	0
2.79	Controls, pwr supplies, diag, cable	33	30	40	5780	6620	0
2.80	**Injection Transport Total**		**123**	**124**	**9350**	**12314**	**2700**
2.81	Dipole magnets	30	16	16	1200	1584	450
2.82	Quadrupole magnets	60	14	18	1800	2184	350
2.83	Vacuum system	250 m	18	20	2500	2956	0
2.84	Mechanical supports	100	16	9	1300	1600	0
2.85	Collimators	4	6	6	90	234	0
2.86	Injection kickers and septa	8	16	12	420	756	1800
2.87	Injection diagnostics	10	12	14	700	1012	100
2.88	Ring collimators for inj losses	4	7	5	240	384	0
2.89	Controls, pwr supplies, cables	2	18	24	1100	1604	0
2.90	**Installation, alignment, & testing**		**207**	**205**	**17700**	**22644**	**0**
2.91	HER	1	27	17	4300	4828	0
2.92	LER	1	29	18	4590	5154	0
2.93	Interaction region	1	15	18	790	1186	0
2.94	RF system	1	18	15	2200	2596	0
2.95	Controls and Diagnostics	1	16	19	850	1270	0
2.96	Sources and Damping ring	1	36	40	1360	2272	0
2.97	Linac	1	38	47	2550	3570	0
2.98	Injection transport	1	20	23	780	1296	0
2.99	Control room	1	8	8	280	472	0

WBS	Item	Number of units	EDIA (mm)	Labor (mm)	M&S (k€)	Total (k€)	Repl. Value (k€)o
3.00	**Overall Site and Utility total**		**0.0**	**0.0**	**157.0**	**157.0**	**0.0**
3.01	Contingency and VAT		0.0	0.0	26.2	26.2	0.0
3.02	Overall sub-total		0.0	0.0	130.8	130.8	0.0
3.10	Site geological preparation	1	0.0	0.0	2.5	2.5	0.0
3.20	Tunnel design and documents	1	0.0	0.0	3.2	3.2	0.0
3.30	Tunnel + surface buildings construction	1	0.0	0.0	70.1	70.1	0.0
3.40	Utility professional design	1	0.0	0.0	2.4	2.4	0.0
3.50	Electric substation	5	0.0	0.0	7.0	7.0	0.0
3.60	Cooling plant	1	0.0	0.0	40.0	40.0	0.0
3.70	Project management	1	0.0	0.0	4.9	4.9	0.0
3.80	Acceptance tests	1	0.0	0.0	0.2	0.2	0.0
3.90	Accessory costs	1	0.0	0.0	0.5	0.5	0.0

From CDR2 (September 27,2010)

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4000→6000 mm
@ 12K€/month

Table 26.2: Site and Utilities budget estimate

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3.20	Tunnel design and documents	1	0.0	0.0	3.2	3.2	0.0
3.30	Tunnel + surface buildings construction	1	0.0	0.0	70.1	70.1	0.0
3.40	Utility professional design	1	0.0	0.0	2.4	2.4	0.0
3.50	Electric substation	5	0.0	0.0	7.0	7.0	0.0
3.60	Cooling plant	1	0.0	0.0	40.0	40.0	0.0
3.70	Project management	1	0.0	0.0	4.9	4.9	0.0
3.80	Acceptance tests	1	0.0	0.0	0.2	0.2	0.0
3.90	Accessory costs	1	0.0	0.0	0.5	0.5	0.0

3Year Plan INFN

Tab. 4.4: Scaletta temporale del Progetto SuperB e stima dei costi	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Sviluppo Acceleratore (130 M€) Costruzioni infrastrutture. sviluppo damping rings. sviluppo transfer lines messa in funzione Linac, damping lines, transfer lines, costruzioni facility end-user	20	50	60							
Sviluppo centri Calcolo (43 M€) Sviluppo progettazione costruzione centro di calcolo per analisi dati	5	15	23							
Completamento acceleratore (126 M€) Installazione componenti negli archi acceleratore, installazione zona interazione, messa in funzione acceleratore				42	42	42				
Utilizzo installazione (80 M€) Costi operazione e manutenzione acceleratore							20	20	20	20
Totale infrastrutture tecniche (379 M€)	25	65	83	42	42	42	20	20	20	20
Overheads INFN (34.3 M€ equivalente al 9%)	2.3	5.9	7.5	3.8	3.8	3.8	1.8	1.8	1.8	1.8
Cofinanziamento INFN (150 M€)	15	15	15	15	15	15	15	15	15	15
Costo Totale del progetto (563.3 M€)	42.3	85.9	105.5	60.8	60.8	60.8	36.8	36.8	36.8	36.8

End construction

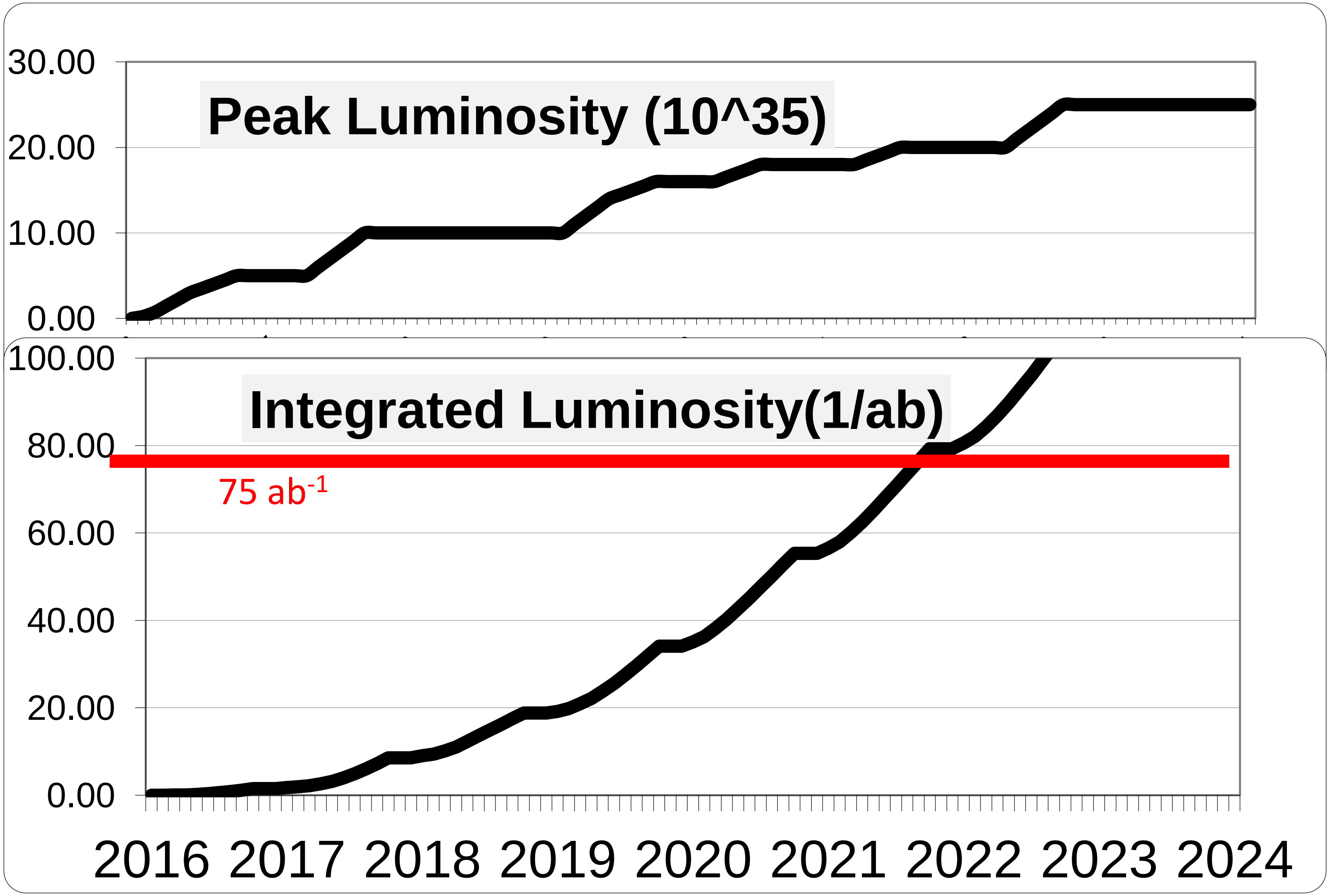
Construction + running Euro 650M
250M from Ministry of Science
+43M from Ministry of science for computing
+150 M INFN co-funding
+Components of PEPII from Slac
Expected contribution from IIT to SuperB as a Light source machine to be defined at their meeting before the end of the year.
Other in kind contribution to the accelerator mainly as a man power . Work packages Mou's needed.

From CDR2 (September 27,2010)

Table 25.1: Construction schedule

Year	Quarter 1 / Quarter 2	Quarter 3 / Quarter 4
1	▪ Tunnel design completed ▪ Injector components designed ▪ Ring component studied ▪ Tunnel contracts awarded ▪ Injector components ordered ▪ Ring components designed	▪ Ring tunnel digging started ▪ Injector tunnel digging started ▪ Injector components started manufacturing ▪ Ring components designed ▪ Tunnel digging continued ▪ Injector components are in manufacturing ▪ Ring components orders started
2	▪ Ring tunnel digging continues ▪ Injector tunnel finished ▪ Injector components start to arrive ▪ Ring components orders finished	▪ Ring tunnel is completed ▪ Injector installation starts ▪ Ring components start to arrive for installation ▪ PEP-II components shipped from SLAC
3	▪ Injector installation continues ▪ Ring component installation starts	▪ Injector installation is completed ▪ Ring installation continues
4	▪ Injector checkout starts ▪ Ring installation continues	▪ Injector beam commissioning starts ▪ Ring installation is completed ▪ Ring checkout starts
5	▪ Ring beam commissioning starts	▪ SuperB beam delivery to detector starts

SuperB Luminosity model



The proposed funding profile

year = year +2

anno	2009	2010	2011	2012	2013	2014
Fase I	20	70	100	20	---	---
FaseII	---	---	---	66	30	30
INFN	10	13	13	13	13	13
overheads	2	7	8	8	8	8
totale	32	90	121	107	51	51

milestones

- Past
  - The site choice
- Present
  - The consortium (Cabibbo Lab)legal constitution

The Tor Vergata choice

- Autonomous interest from a wide community of the University (not only physicists)
- First contacts for a feasibility evaluation
  - Space
  - Electricity
  - Water
  - permits

Site requirements ok in a first approximation

- Extension of the order of 300000 square meters
- 2X150 Kilovolt electric supplies nearby

*** lines available when needed ****

- Water supply adequate and the possibility of additional supply from a number of pits
- Vibration measurements: the good surprise
- Site archaeology free

Added values

Strong role in the civil engineering works: likely civil engineering will be a university task

University expertise available for general services (50000 students campus)

A door to the academic non particle physics community

The legal identity

- Three phases
- INFN: the past and present starting phase
- Consortium:
  - Approved end of July from INFN and University independently
  - Officially registered on October 7 as "Cabibbo Lab"
    - Following main European infrastructures
    - More flexibility in the organisation
    - Can directly associate foreign partners (EGO like)
- European consortium (ERIC): the final goal

The consortium governance

- A Cern like management structure
  - A director general and a directorate
    - Departments under director's supervision
  - A scientific evaluation committee
    - Science (phase II)
    - Machine (phase I)
  - A finance evaluation committee
- A known and working scheme

The statute of the Cabibbo lab

- founders: Tor Vergata University and INFN
- Phase I construction, Phase II operation
- Open to additional members
  - Associate
  - Full members

the Italian Institute of Technology joins by the end of the year after the final definition of its economical engagement

The top structure

- Council of member institutions delegates
- Director general
  - Directorate (accelerator, experiment interface, administration, synchrotron light)
- Scientific committee (phase I a Machine Advisory Committee)
- “revisori dei conti”

Voting: Full member with quotas proportional to the contribution

The finance advisory committee

- Monitoring the financial flow and the available resources
- Updating periodically the cost estimate and its comparison with available resources
- Assessing the equivalent financial contribution of in kind deliverables

Accelerator Project management

Accelerator Directorate

Membership:

Project Director (Scientific)
Deputy Director (Technical)
Chief Engineer /(Coordinator)

Accelerator Board

Membership:

- Accelerator Directorate
- WP Leaders
- TA Leaders

– **Function:**
  - Supervises and reviews the status of the project.
  - Ensures the resources needed in order to achieve the Working Packages deliverables

Delocalized WP

- **Working Package Leaders functions:**
  - Coordinate the single working package
  - Responsible to follow and achieve the WP deliverables
  - Coordinate **Task Manager – WPTL** (Persons responsible for the realization of the specific WP tasks)

Resident Activity

- **Technical Areas Leaders functions:**
  - Coordinate the technical services staff
  - Responsible for the executive design purchasing and installation of the subsystems
  - About 60/70 people at start time

Very short term milestones

- Consortium
  - Start spending money (already two meetings of the council)
  - IIT joined
  - Director general appointed and accelerator and physics director enrolled
- Team
  - Calls for new 30 people launched
    - Recognition of INFN personnel achieved
    - Letter of intents with foreign institutions of WP share
  - Civil construction
    - Authorizations for construction advanced

Short term milestones

(By next summer)

- First financial assessment
- WP at work
- Main machine design frozen
- First associate foreign partners under negotiation
- Light source project defined for the first phase
- Civil engineering project in an advanced stage
- Site prepared for work
- Computing centres construction started
- Consortium administration consolidated

Future

Prepare MOU's and move on to form Accelerator "CONSORTIUM" and Detector Collaboration. We will continue for a while without freezing the collaboration.

Even Governance documents will not be frozen and remain drafts for the time due to allow the stabilization of the community.

SuperB will remain an open entity to contributions and participation.

Future

The TDR is the goal.

TDR of Accelerator monitored and coordinated by the Accelerator directorate.

TDR on detector is in a quite good shape.

We are confident in a covergency about he still open issues. There is not any terible urgency, but in lare part it is already mature to allow the preparation for the funding request to the various agencies.

We should move on without loosing time but in a pragmatic way. Goal should be not to leave back any component.

Contacts with competitors

It will be healty to maintain good relations with the other flavour communities and in particular with SuperBelle.

cabibboLab will negotiate with KEK management periodical contacts.

Topical meetings will be encouraged (for example on Background)

Also topical meeting on Physics with all communities.

However we will aim to the preparation by the end of 2013 of a Physics Book , that will be:

THE SUPERB PHYSICS BOOK.

and now….

and now….

Let's go to work!

END