Stato di BaBar

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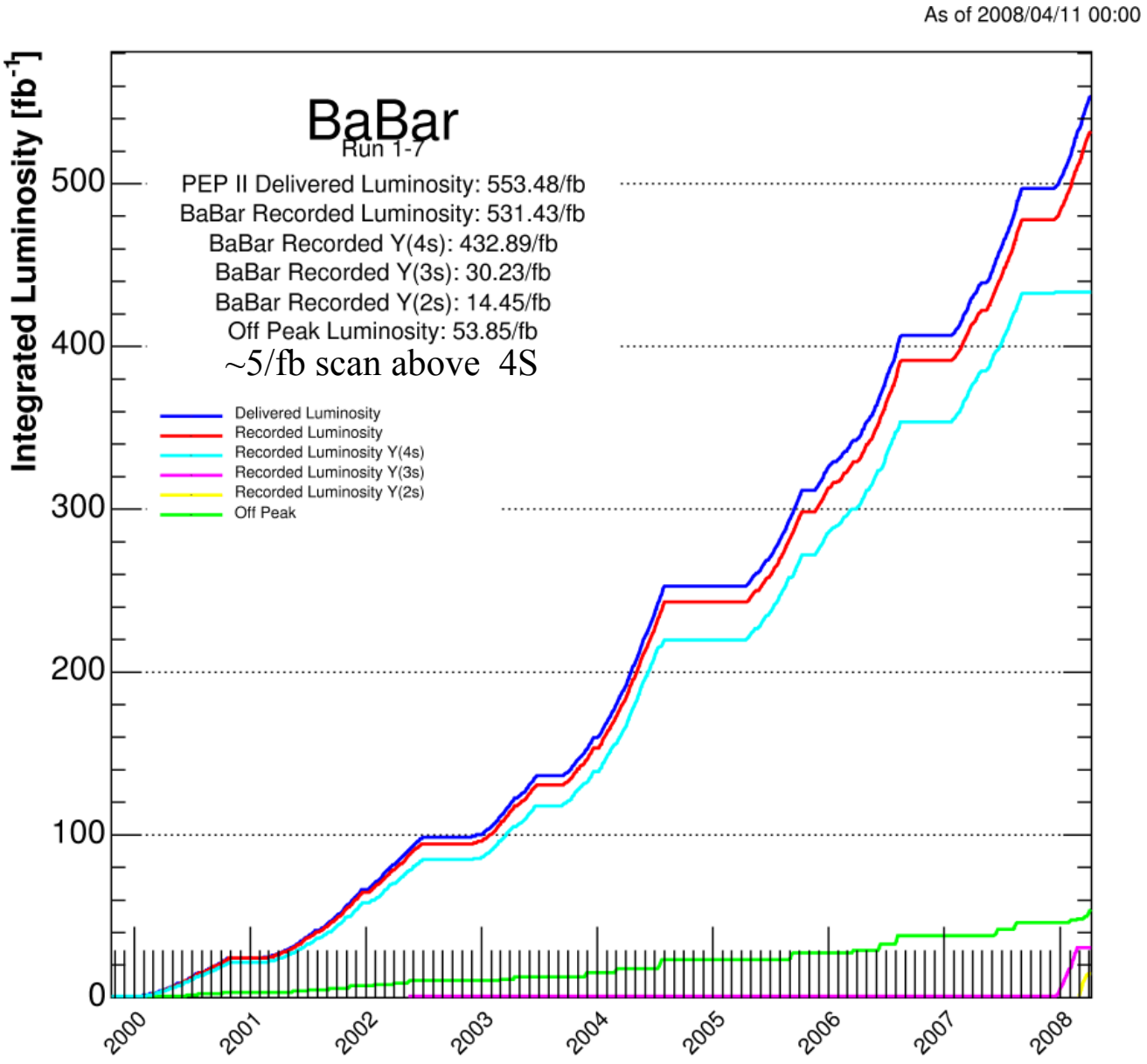
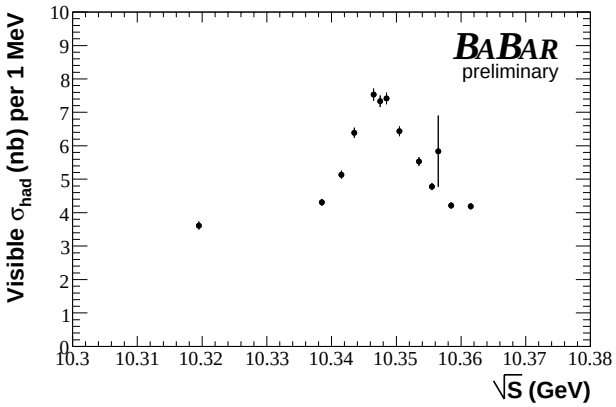
Incontro con referee settembre 2008


As of 2008/04/11 00:00
BaBar
Run 1-7
PEP II Delivered Luminosity: 553.48/fb
BaBar Recorded Luminosity: 531.43/fb
BaBar Recorded Y(4s): 432.89/fb
BaBar Recorded Y(3s): 30.23/fb
BaBar Recorded Y(2s): 14.45/fb
Off Peak Luminosity: 53.85/fb
~5/fb scan above 4S
Delivered Luminosity
Recorded Luminosity
Recorded Luminosity Y(4s)
Recorded Luminosity Y(3s)
Recorded Luminosity Y(2s)
Off Peak
Integrated Luminosity [fb-1]
0
100
200
300
400
500
2000
2001
2002
2003
2004
2005
2006
2007
2008

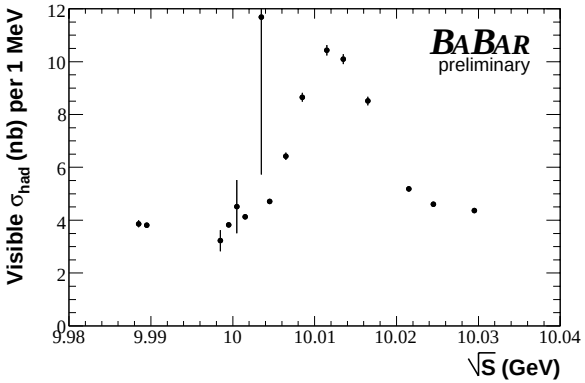
Il Run 7

- Feb 29 fine del run alla Y(3S)
  - 30 fb^{-1} on resonance
  - 2.8 fb^{-1} sotto il picco
  - Circa 120M di eventi (x10 Belle, x20 CLEO)
- Mar 28 fine del run alla Y(2S)
  - 14.5 fb^{-1} on resonance
  - 1.5 fb^{-1} sotto il picco
  - Circa 100 M di eventi (x12 CLEO)
- Dal 28 marzo energy scan sopra la 4S
  - 4.5 fb^{-1} (x50 dati esistenti)
  - Ricerca di nuovi stati
- Apr 7 fine presa dati

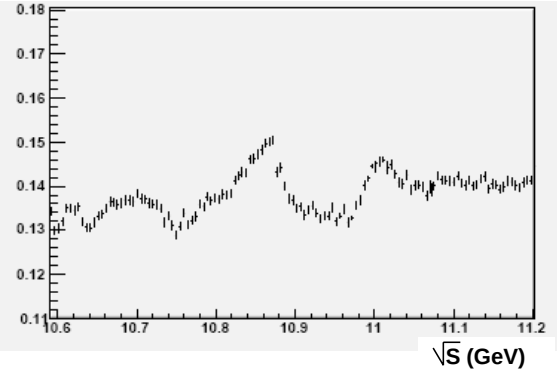
~30/fb Y(3S) run



14.5/fb Y(2S) run



~5/fb scan above the 4S



Some of the key measurements aimed at from this data:

- Ground state of bottomonium η_b
- Invisible width of $\Upsilon(1S)$
- Search for light Higgs/exotica

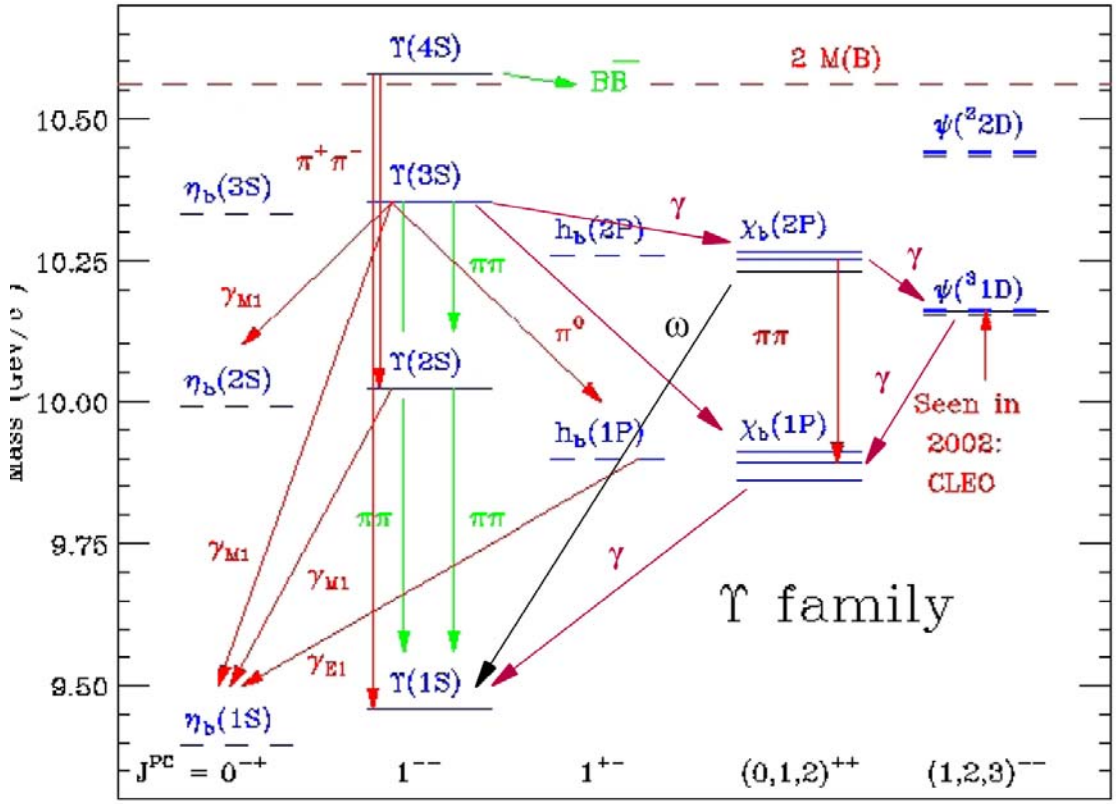
- Measurement of R vs S above the $\Upsilon(4S)$ and parameters of "5S", "6S", and other interesting structures ….

Already an important result...

Bottomonium states

Theoretical predictions

- *Y(1S)-η_b hyperfine splitting from 35-100 MeV*
- *η_b width ~ 10 MeV*
- *branching fraction for Y(3S) → $\gamma\eta_b$ ~ (1-20) x10^{-4}*

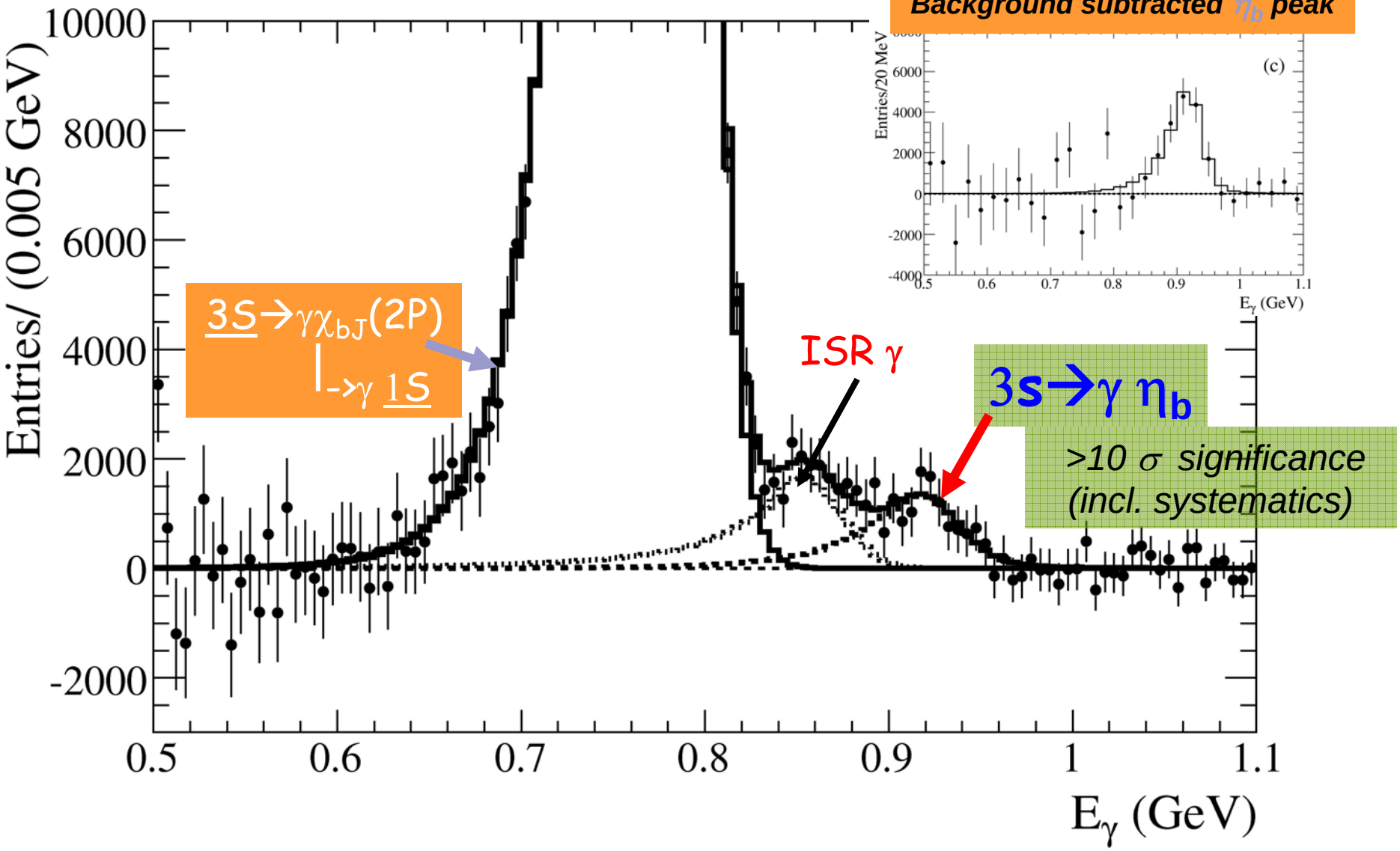


CLEO-III limit:

- *< 4.3 x 10^{-4} at 90% CL*

Energy spectrum of γ's from Υ(3S)

First Observation of η_b meson



Risultati relativi all' η_b

$$m(\eta_b(1S)) = (9388.9^{+2.1}_{-2.8} \pm 2.4) MeV/c^2$$ Massa

$$m(Y(1S)) - m(\eta_b(1S)) = (71.4^{+3.5}_{-4.0}) MeV/c^2$$ Splitting iperfine

$$BR(Y(3S) \to \gamma\eta_b(1S)) = (4.8 \pm 0.5 \pm 1.2) \cdot 10^{-4}$$ Branching ratio

BaBar Physics program

- Complete the Flavor decay program:
  - The CP violation measurements in B decays
  - The ultimate job on CKM parameters – until Super B
  - Searches for New Physics in B, Charm and Tau decays

- Expansion of the core program with the new data at the Upsilon resonances:
  - Search for New Physics in Upsilon decays
  - The first opportunity to study hyperfine splittings in the bottomonium system & observation of singlet states.
  - Study the structures above the Upsilon(4S)
    - Search for anomalous states

130 abstract at ICHEP2008

A list of topics on BaBar's "core" physics program

The ultimate job on CKM – until the SuperB era

Search for New Physics

A major effort underway to perform these measurements

~ 2/3 of the core measurements performed with <1/2 of the full dataset

Core physics areas	Analysis Channels
CKM: Angle β Measurements of Time-Dependent CP Asymmetries and direct CP asymmetries	sin2β from $B \to c\bar{c}K^0$
	cos2β from $B \to J/\psi K^{*0}$
	β from $B \to Dh$
	β from $B \to D^{(*)+}D^{(*)-}$
CKM : Angle α Measurements of decay rates, TDCP asymmetries and direct CP asymmetries	$B \to \pi\pi$ $[\pi^+\pi^-, \pi^+\pi^0, \pi^0\pi^0], K\pi, KK$
	$B \to 3\pi$ Dalitz analysis
	$B \to \rho\rho$ $[\rho^+\rho^-, \rho^+\rho^0, \rho^0\rho^0]$
	$B \to A_1\pi$
CKM: Angle γ Measurements of Rates, Direct CP asymmetry and Dalitz Analysis	$B \to D^{(*)+}K^{(*)-}$ [Dalitz analysis, GLW, ADS]
	$B \to D^{(*)0}K^{(*)0}$
	$B \to D^{(*)}\pi$
	$B \to D^{(*)}\rho$
CKM: V_{ub}	Inclusive $B \to X_u l\nu$
	Exclusive $B \to X_u l\nu$ $[B \to \pi\ l\nu, B \to \rho\ l\nu, \ldots]$
Loop Dominated Processes As probes of New Physics	**Radiative B decays**: Inclusive and exclusive $B \to s\gamma$ [Rate, A_{ch},..] • TDCP in $B \to K^{*0}\gamma$ [Probe of helicity of γ] Inclusive and exclusive $B \to d\gamma$ [Rate, A_{ch},..] Inclusive and exclusive $B \to sl^+l^-$ [Rate, A_{ch},A_{FB}, ..] Search for $B \to s\nu\bar{\nu}$
	TDCP in Gluonic Penguin Dominated Channels: $B \to K^0\phi,\ K^0\eta',\ K^0K^+K^-,\ K^0\pi^0,\ K^0K_s^0K_s^0,$ $K^0\rho,\ K^0\omega,\ K^0\pi^0\pi^0$
	Charmless Decay Properties: Decay Rate, Direct CP, Polarization $B \to VV$ *Decays* $(\rho\rho, \phi K^*, \rho K^*, \omega\rho, \omega K^*, ..)$ $B \to \eta'\pi^0, \eta\pi^0, \eta'\eta, \eta'\eta', \eta\eta$ *(for SU(3) analysis)* $B \to \rho K, \eta K, K\pi\pi, 3K, 3\pi$
Leptonic B and Charm decays: B and D decay Constant (LQCD) Probe of New Physics	$B^+ \to \tau^+\nu$, $B^+ \to l\nu(\gamma)$, $B \to ll$, $D_s^+ \to l^+\nu$
Charm Physics	D^0 mixing and CPV Rare Charm Decays ($D \to ll$, FCNC in charm decays)
Tau Physics	**Lepton Flavor Violation:** $\tau \to \mu\gamma,\ e\gamma,\ \tau \to lll,\ l\pi^0,\ l\eta,\ l\eta',\ lK_s^0,$

Table 2: Some of the key measurements on the "core" physics program of BaBar.

Babar Italia postcards

D^0-D^0 mixing, exclusive V_{ub}

Thanks to Concezio

TD analyses and BF of charmless decays (ηK_S, $\eta K/\pi$, $\eta' K_S$, $\eta'\omega$, $\eta'\phi$, $\eta' K_L$, $a_1\pi$)

SL convener V_{cb} ($B\to D^*\ell\nu$), B lifetime & mixing, *CPV* in mixing, $D^0\to K\pi$, weak annihilation, inclusive V_{ub}

charmonium (**convener**, $B \to c\underline{c} \to$ hadrons, $B \to cc[\eta_C\gamma]K$), $\tau \to \mu K_S$ bottomonium, $\tau \to \mu\gamma$, **HFAG member**

sin2β ($B\to D^{0(*)}h^0$), V_{cb} ($B\to D^*\ell\nu$)

Rad. Pen., tau and Breco conveners, γ (*DK* GLW&Dalitz), inclusive $b\to s\gamma$, $B\to D^*\tau\nu$, τ lifetime, $\tau\to\mu K_s$, D^0 mixing, $\tau\to K_s\pi\pi^0\nu$

inclusive V_{ub}, charmonium, bottomomium, γ (*DK* ADS), charmless 3-body ($K_S\pi^+\pi^0$), **HFAG member**

sin2β in $c\underline{c}$, *CPV* in mixing, $B\to K^*\nu\underline{\nu}$

sin2β ($B\to D^*D^*$, $c\underline{c}s$), ISR, γ (*DK* GLW & Dalitz)

3-body D Dalitz, light meson spectroscopy, D_{sJ}*, exotics, $D_{(s)}^{(*)}D_{(s)}^{(*)}$

Leptonic convener, sin2β in $c\underline{c}$, sin(2β+γ) Dπ, 3-body D Dalitz, D^0-D^0 mixing, γ (*DK* ADS & Dalitz), sin2α (ππ), πK, KK, sin2β (TD and BF of φK, φπ, KKK), exclusive V_{ub}, $B\to\ell\ell$, **2 HFAG members**

$B\to\tau\nu$ with hadronic tags $B\to D^*a_1$

La comunità italiana è piuttosto compatta

- BaBar 2009 44.1 FTE
- SuperB 2009 (percentuali provenienti da fisici di BaBar) 15.2 FTE

- BaBar 2008 64.1 FTE

Il bilancio preventivo 2009

- Costruito con gli algoritmi standard
  - M.I. 1.4 KEuro/FTE
  - M.E. 1m.u./FTE, 1 m.u.=6.7 KEuro
    - + incarichi specifici
  - Consumo 1.7 KEuro/FTE
- Fondo comune 2009

  275 K$ (quota 290K$ meno credito di 15 K$) -> 185KE

Incarichi specifici 2009 in mesi-uomo

BA		-
FE	0.7	Calabrese(IFC-0.7)
GE	4	Patrignani (AWGc, Y(3S) Task force, PubBoard)
LNF	2	Peruzzi (PubBoard-1), Finocchiaro (SpeakersBureau-1)
MI	1	Lombardo (Btagging-1)
NA	2	DeNardo (AWGc-2)
PD	2	Rotondo (AWGc-2)
PG		-
PI	6	Walsh(AWGc-2), Lusiani(AWGc-2), Marchiori(AWGc-2)
RM	2	Anulli (AWGc-2)
TO	3	Bianchi(Comp-1.5, Chair CSC-1.5)
TS	6	Cartaro (DQG+Long term-6)

Numero di m.u. totali:
28.7 (2009)
71.2 (2008)
87.7 (2007)

Richieste 2009 – M.E.

	Missioni estere									
	FTE	FTE*	Richieste	A (mu)	B (mu)	C (mu)	Tot (mu)	C(mu) sj	Richieste (Keuro)	S. J. Totali (Keuro)
Bari	2,0		13,5	2,0	0	0,0	2		13,5	0
Ferrara	7,1		52,5	7,1	0	0,7	7,8	12,0	52,5	80
Genova	4,9		59,5	4,9	0	4,0	8,9		59,5	0
LNF	5,9		54,0	5,9	0	2,0	7,9		54,0	0
Milano	2,1		27,0	2,1	0	1,0	3,1		27,0	0
Napoli	2,1		27,5	2,1	0	2,0	4,1		27,5	0
Padova	5,4		49,5	5,4	0	2,0	7,4		49,5	0
Perugia	1,3		7,0	1,3	0	0,0	1,3		7,0	0
Pisa	5,5		84,5	5,5	0	6,0	11,5		84,5	0
Roma1	3,5		36,5	3,5	0	2,0	5,5		36,5	0
Torino	2,2		35,0	2,2	0	3,0	5,2		35,0	0
Trieste	2,1		54,0	2,1	0	6,0	8,1		54,0	0
totali	44,1		500,5	44,1	0	28,7	72,8	12,0	500,5	80
A = meeting in mu/FTE*			1,0							
B = turni di shift in mu/fte*										
C = compiti specifici										

Smontaggio rivelatore

- **Materiale da recuperare da Slac**

SVT A) Installato e PARTE DELL'ESPERIMENTO-da negoziare
Pisa/Torino Cavi Neri HDI + Spares installati 108
Cavi Neri DAQ + spares installati 32
CAEN mainframes SY527 12
Boards A522(A) installate 104
Boards A526 installate 14
- Pisa Boards A515 centertap 1
Cavi centertaps e interlock
- Pisa/Torino CAENet VME controller
B) Spares non installati-
Pisa/Torino Cavi neri short 7
Cavi neri long 2
Scatola di schedine carico-
Pisa Agilent P.Supply 6614C 1
Kepco progr. power supply 1
Board A515 1
Keithley 2400 1
Keithley 2000-20 1
Cable per 2000-20 1
Cable GPIB + others
GPIB PCMCIA card 1
Laptop DELL + CD unit 1
Braccialetti e bags antistatici-
Pisa/Torino CAENet VME controller 1
CAEN crates SY527 2+1
Boards A522 spares 4+5
Boards A526 spares 2
Spare parts for SY527 and A522
- Pisa Modulo Teststand L1 + matching card+ tail Modulo Teststand L3

- **IFR**

Ferrara – Genova

Description	Location	Quantity
FEC crates (with CC and PS)	IR2 Hall	12
FEC cards	into the crates	192
Trigger boards	into the crates	6
Crate Service Card	into the crates	12
elettronica DAQ (INFN-NA)	crates + Lab	
spare FECs	Lab	30
spare Trigger Board	Lab	1
spare CSC board	Lab	1
spare crate controller	Lab	1
spare crate PS	Lab	2
LST signal cables	IR2 Hall	768 different length

- Richieste per smontaggio rivelatore (sj)
- M.E. 12 m.u.
- Consumo 20 KE
- Trasporti 20 KE

PREVENTIVO GLOBALE DI SPESA PER L'ANNO 2009

Struttura	A carico dell'I.N.F.N.																A
	interno	estero		consumo		trasporti	calcolo		manutenzione		inventario		apparati		TOTALI		
BA	3.00	13.50		3.50											20.00		
FE	10.00	52.50	80.00	197.00	20.00	20.00									259.50	120.00	
GE	7.00	59.50		8.50											75.00		
LNF	8.50	54.00		10.00											72.50		
MI	3.00	27.00		3.50											33.50		
NA	3.00	27.50		3.50											34.00		
PD	8.00	49.50		9.50											67.00		
PG.DTZ	2.00	7.00		2.00											11.00		
PI	9.50	84.50		11.00											105.00		
RM1	5.00	36.50		6.00											47.50		
TO	3.50	35.00		4.00											42.50		
TS	3.00	14.00		3.50											20.50		
Totali	65.50	460.50	*80.00*	262.00	*20.00*	*20.00*									*788.00*	*120.00*	

Mod. EC/EN 4

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Operating Common Fund Basis

OCF 08 count (based on October 16, 2007): 328

Common Fund Fractions	2001	2002	2003	2004	2005	2006	2007	2008	2009
US	0.512	0.512	0.519	0.517	0.504	0.493	0.493	0.482	0.482
France	0.101	0.106	0.093	0.094	0.097	0.091	0.083	0.088	0.088
UK	0.121	0.116	0.105	0.094	0.105	0.101	0.105	0.095	0.095
Germany	0.026	0.028	0.033	0.040	0.038	0.047	0.042	0.037	0.037
Italy	0.178	0.178	0.183	0.177	0.173	0.185	0.194	0.213	0.213
Canada	0.026	0.023	0.026	0.033	0.033	0.037	0.042	0.037	0.037
Norway	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.006
Netherlands	0.000	0.000	0.005	0.007	0.007	0.002	0.003	0.003	0.003
Spain	0.000	0.000	0.000	0.000	0.005	0.007	0.011	0.012	0.012
Other	0.031	0.031	0.031	0.033	0.033	0.032	0.022	0.027	0.027
Total OCF member count	387	387	420	424	421	406	361	328	328

OCF 2009

2009 BaBar Operating Common Fund
DRAFT BUDGET (in Thousands, US Dollars)

Categories	Description	CY2007	CY2008	CY2009	Change (CY09 - CY08)	Comments
BaBar Computing		2,041	1,789	1,112	-677	
	Maintenance	400	320	320	0	No change
	Production Support	500	585	287	-298	Reduced amount for tapes
	Engineering*	986	824	480	-344	Reflects 2.13 FTE
	Training	60	30	0	-30	No training
	Eng. Travel	25	25	20	-5	Reduced travel
	Miscellaneous	70	5	5	0	No change
	Administrator					
BaBar Cryo Technical Support		239	118			Consolidated and Moved the Budget to Detector Support
	Cryo Labor		90			Consolidated and Moved the Budget to Detector Support
	Technical Staff*	49	36			Consolidated and Moved the Budget to Detector Support
	Cryo Operations Staff*	115	54			Consolidated and Moved the Budget to Detector Support
	Cryo Operations M&S	75	28			Consolidated and Moved the Budget to Detector Support
BaBar Hall Support		500	327			Consolidated and Moved the Budget to Detector Support
	Babar Electrical	55	34			Consolidated and Moved the Budget to Detector Support
	Electrical Technician*	105	80			Consolidated and Moved the Budget to Detector Support
	BaBar Mechanical*	165	88			Consolidated and Moved the Budget to Detector Support
	Misc. Operating Supplies	10	40			Consolidated and Moved the Budget to Detector Support
	Chiller Maintenance	15	11			Consolidated and Moved the Budget to Detector Support
	Detector System Consumables	150	74			Consolidated and Moved the Budget to Detector Support
Detector Monitoring			79			Consolidated and Moved the Budget to Detector Support
	Software Engineering		64			Consolidated and Moved the Budget to Detector Support
	Hardware		15			Consolidated and Moved the Budget to Detector Support
BaBar Publication Cost		30	30	30	0	No change
Detector Support				225	-299	
	Technician Support			125		Includes fractions of Cryo Tech, EE Tech, and Mech Tech
	Detector Support M&S			85		
	Software Engineering			15		Represents 10% FTE
Total Operating Common Fund		2,810	2,343	1,367	-976	

Notes: *The budget requested reflects the labor rate of the individuals charging to the account.

BaBar Common Fund

Share and Invoice Calculation for 1/1/09 Through 12/31/09 (Calendar Year 2009)

($ in Thousands)

A	B	C	D	E	F	G	H
Country	2008 PHD Count	2009 CF Fraction (%)	Operating CF Share (K$)	In Kind Work Rec'd	**Revised NET to Invoice**	**Prior Yr (Credit) & Prepayment**	**Adjusted Net To Invoice**
Canada	12	3.7%	50.0	56.5	(6.5)	-	-
Canada Original Due (1)			50.0	56.5	(6.5)		-
Computing Upgrade					-		-
China							
France	29	8.8%	120.9		120.9	-	120.9
France IN2P3 (4)	24	7.3%	100.0		100.0		100.0
France CEA	5	1.5%	20.8		20.8		20.8
Germany	12	3.7%	50.0		50.0	(66.7)	-
Bochum	1	0.3%	4.2		4.2	(6.7)	-
Dresden	3	0.9%	12.5		12.5	(35.8)	-
Univ. Dortmund	2	0.6%	8.3		8.3	(6.7)	-
Univ. Heidelberg	2	0.6%	8.3		8.3	(13.7)	-
Univ. Karlsruhe	2	0.6%	8.3		8.3	16.5	-
Rostock	2	0.6%	8.3		8.3	(20.3)	-
Italy	70	21.3%	291.7		291.7	(15.0)	276.7
The Netherlands	1	0.3%	4.2		4.2		4.2
Spain	4	1.2%	16.7		16.7		16.7
Norway (2)	2	0.6%	8.3	8.3			
Russia (2)	9	2.7%	37.5	37.5			
UK	31	9.5%	129.2		129.2		129.2
Subtotal	**170**	**51.8%**	**708.5**	**102.3**	**606.2**	**(81.7)**	**547.6**
US	158	48.2%	658.5		658.5		
Total	**328**	**100.0%**	**1,367.0**	**102.3**	**1,264.7**		

NOTES:

1) Canada: Credit of 56.5K against their OCF Payment due to in-kind contribution to computing

2) Norway and Russia: No Invoices sent. US Pays for them.

3) Ratified 2008 PHD count is used for final invoice calculations.

IFC will decide on the proposal to freeze the share at the 08 Count in the Jul meeting.

Stato dell'apparato e questioni riguardanti lo smontaggio.

L'apparato è stato mantenuto in uno stato 'hot ready' per circa 3 mesi, e di seguito è iniziata la transizione al 'minimal maintenance state' (MMS), che verrà completata entro settembre.
Successivamente bisognerà gestire la transizione alla fase di disassembly & disposal (DND).

Seguono alcune slides mostrate da D. MacFarlane (deputy director PPA Division di Slac) alla riunione IFC di luglio 2008. Un subpanel è stato formato che ha come compito quello di trovare un agreement soddisfacente per tutti (da ratificare alla prossima riunione IFC)

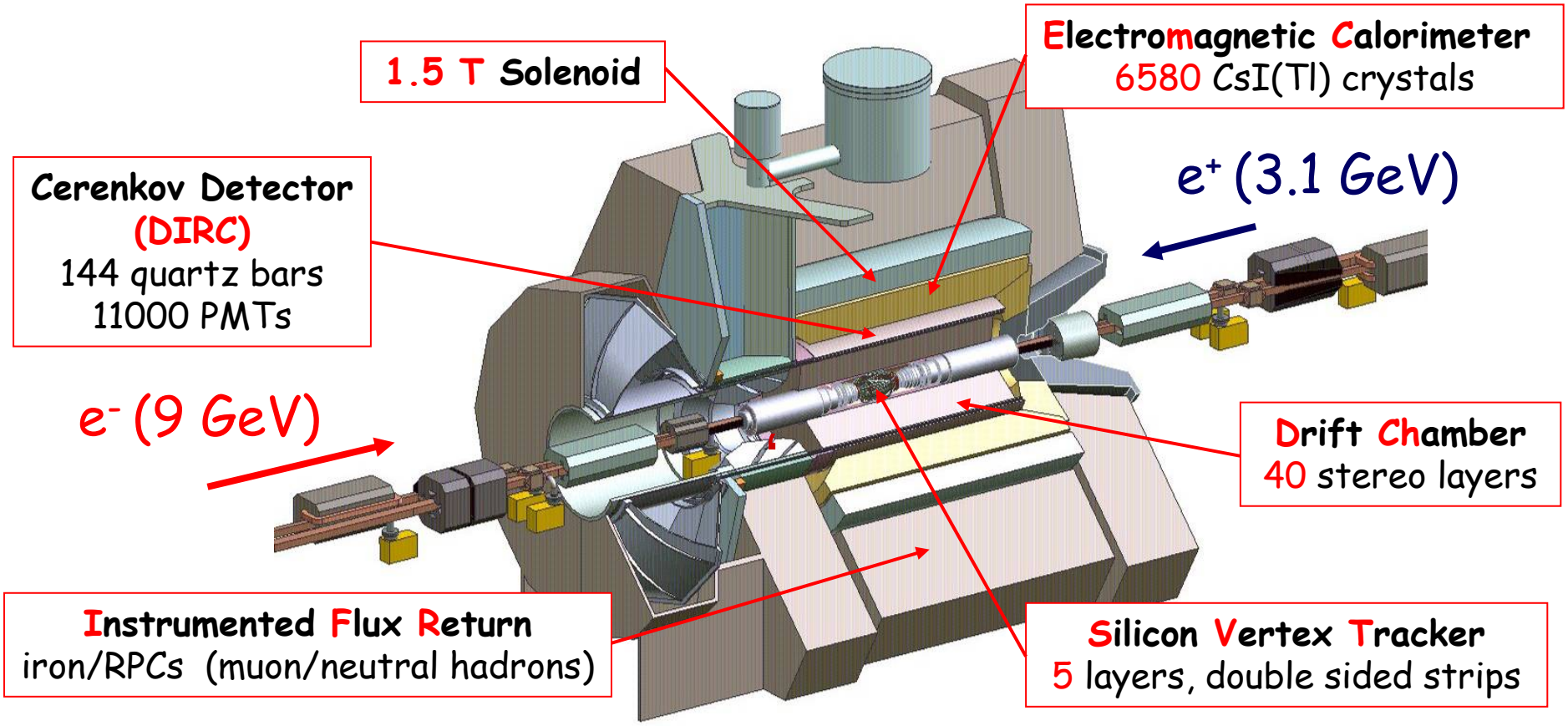
Current planning assumptions

- ***FY08: Transition to minimal maintenance state***
- **BABAR *will complete transition to minimal-maintenance state following end of operations***
  - Cooling systems drained and dried (except flourinert for EMC), DRC SOB empty, magnet under vacuum until warm then backfilled with N_2, flammable gas replaced by dry air in DCH
  - Stand-alone version of monitoring system for long-term maintenance
- ***FY08-FY12: Planning and execution of disassembly & disposal (DND) project***
  - Five major components to project plan: project management, engineering & tooling refurbishment, peripherals disassembly, core detector disassembly, and DIRC & EMC disassembly
  - Anticipate significant re-use interest in some components, with the potential for direct engagement & some funding from outside partners in recovering these systems

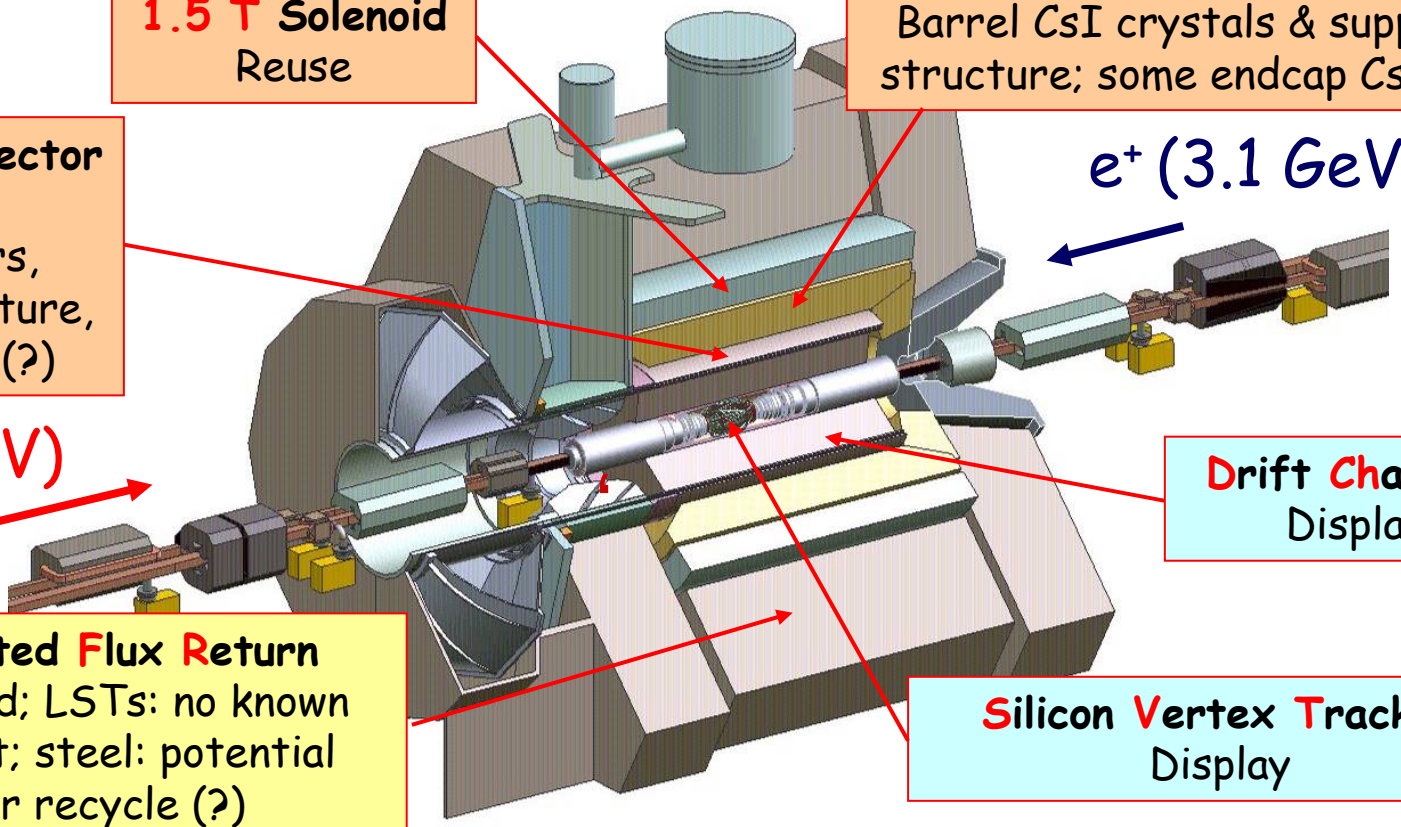
BABAR detector assets

- ***Major assets of long-term re-use value identified:***
  - Subsystem managers were involved in identifying detector components with long term value
  - Assets with high value to preserve in the disassembly process, if they have not already been spoken for:
    - Quartz bars from the DIRC
    - CsI (Tl) crystals from the EMC
    - Superconducting magnet coil, cryostat and current leads
  - Flux return steel also of potential interest and/or value
- ***Anticipate that SuperB will be interested in these components***
  - Need to understand whether these interests are real, so that we can continue to plan and execute the *BABAR* DND project in a timely manner

BABAR Detector



BABAR Detector



1.5 T Solenoid
Reuse

Electromagnetic Calorimeter
Barrel CsI crystals & support structure; some endcap CsI (?)

Cerenkov Detector (DIRC)
Quartz bars, support structure, phototubes (?)

e^+ (3.1 GeV)

e^- (9 GeV)

Drift Chamber
Display

Instrumented Flux Return
RPCs: discard; LSTs: no known use case yet; steel: potential reuse or recycle (?)

Silicon Vertex Tracker
Display

BABAR D&D subprojects

- ***Project has been divided into 5 main elements for a TEC of $15.121M (was $9.7M at Aug 2007 review)***
  - Envision each will be managed with a set of milestones and goals, but not as a DOE line-item construction project
- ***Project management ($4.632M)***
  - 51 months duration, 2008(Q3) to 2012(Q3)
  - Includes project planning, safety, and materials disposition planning
  - Costs not included in August 2007 estimate
- ***Engineering and tooling refurbishment ($4.415M)***
  - 22.3 months duration, 2008(Q3) to 2010(Q2)
  - Qualifying and refurbishing tooling for major system removal
  - Originally envisioned that more work would be completed in parallel with normal operations
  - Cost only partially included in August 2007 estimate

BABAR D&D subprojects

- ***Peripherals disassembly ($1.776M)***
  - 46.5 months duration, 2008(Q4) to 2012(Q3)
  - Remove shielding, electronics hut, walkways, platforms, utilities, cabling, and cableways
- ***Core detector disassembly ($2.041M)***
  - 27 months duration, 2008(Q4) to 2011(Q1)
  - Disassemble forward and backward doors
  - Remove major detector systems (SVT, DCH, DRC, EMC, LST)
  - Rollout detector to off beam position
- ***DIRC and EMC disassembly ($2.257M)***
  - 24 months duration, 2010(Q2) to 2012(Q3)
  - Breakdown and potential preparation for transport of major recoverable detector systems
  - Execution would depend on whether components are reused or disposed
  - Could be funded by INFN as part of SuperB project

ID	Task Name	Duration
1	**BABAR DISASSEMBLY AND DISPOSAL**	**51.7 mons**
2	**PROJECT MANAGEMENT**	**51 mons**
3	Project Management	51 mons
4	Create Detailed Project Schedule	9 mons
5	Develop Safety Plan/Safety Oversight	9 mons
6	Develop Materials Disposition Plan	9 mons
7	Transfer Materials to Disposition Holding Area	42 mons
8	**ENGINEERING AND TOOLING REFURBISHMENT**	**22.3 mons**
9	PEP Support Tube Tooling	1 mon
10	End Door Tooling	7 mons
11	End Cap EMC Tooling	4 mons
12	Drift Chamber Tooling	6 mons
13	DIRC SOB Tooling	3 mons
14	Detector Roll-Out Equipment	2 mons
15	DIRC Central Support Tube/Horsecollar	9 mons
16	Barrel EMC Tooling	18 mons
17	Cylindrical RPC Tooling	1 mon
18	S.C. Solenoid/Valve Box Tooling	18 mons
19	Barrel Flux Return Tooling	21 mons
20	**PERIPHERALS DISASSEMBLY**	**46.5 mons**
21	Remove Shielding	1 mon
22	Remove Electronics House Equipment	4 mons
23	Roll Back Electronics House	0.5 mons
24	Dismantle Electronics House	1 mon
25	Remove End Door Peripherals	2 mons
26	Remove Barrel Peripherals	6 mons
27	Remove Piping/Heat Exchangers	2 mons
28	Remove Walkways and Platforms	1 mon
29	Remove IR-2 Cabling and Cableways	30 mons
30	**CORE DISASSEMBLY**	**27 mons**
31	Remove PEP Rafts	1 mon
32	Remove PEP Support Tube/SVT	0.5 mons
33	Disassemble FWD East End Door	1.5 mons
34	Disassemble BWD East End Door	1.5 mons
35	Disassemble FWD West End Door	1.5 mons
36	Disassemble BWD West End Door	1.5 mons
37	Remove Barrel Brass/LSTs	4 mons
38	Remove End Cap EMC	0.5 mons
39	Remove Drift Chamber	0.5 mons
40	Remove DIRC SOB	0.5 mons
41	Roll Out Detector	1 mon
42	Remove DIRC Central Support Tube/Horsecollar	1 mon
43	Remove Barrel EMC	1 mon
44	Remove Cylindrical RPC	0.5 mons
45	Remove S.C. Solenoid/Valve Box	1 mon
46	Remove Barrel Flux Return	6 mons
47	**DIRC/EMC SYSTEM DISASSEMBLY**	**24 mons**
48	DIRC Disassembly	6 mons
49	End Cap EMC Disassembly	3 mons
50	Barrel EMC Disassembly	15 mons

BABAR Disassembly & Disposal Planning

Proposed arrangement on ownership & disposal

- BABAR equipment ownership formally turned over to SLAC & DOE on an agreed timescale
- SLAC & DOE take on responsibility for partial and/or complete dismantling, and storage or disposal
- Once the collaboration declares the experiment to be complete, there are two options for equipment re-use:
  - Prior to the ownership transfer date, original owners can recover equipment at cost per the 1996 General Conditions, as long as we can maintain the DND schedule
  - After the ownership transfer date, bilateral agreement on offsetting contributions to dismantling costs will be required to obtain equipment for re-use
- In this scenario, the magnet steel, coil, and other common fund items also belong to SLAC, and proceeds from their disposal will be used to offset DND costs

Additional variable for IFC: timing of transition

- ***Issue: retaining assurance about strategic re-use of BABAR systems, in particular for SuperB***
  - Strong desire by a large part of *BABAR* community, including SLAC, to see re-use as part of a Super*B* project
  - Turning detector ownership over the DOE early will result in a loss of control over disposal choices
- ***Issue: delaying transfer complicates proceeding with planned DND schedule***
  - According to our schedule, which is fully funded in the Presidential budget for FY09, we would be removing equipment and systems in calendar 2009
- ***Proposal: ownership of BABAR be transferred SLAC & DOE on March 1, 2009***
  - IFC members would continue to contribute to *BABAR* OCF through March 1, 2009
  - Collaboration continues to manage transition to MMS and monitoring of *BABAR* while MMS is maintained
  - When BABAR is declared complete, present owners can either recover their equipment prior to March 1, 2009 (at cost) or SLAC will disburse equipment on the basis of requests for re-use

Summary

- ***Initial transition & DND planning well underway***
  - Reviewed by DOE on August 6-7, 2007
    - Recommendation that planning for DND phase start in FY08 and execution should begin as soon as possible
  - Transition to MMS will now occur in FY08 and as a straightforward extrapolation from operations
  - Planning for DND has begun in FY08, with preparations in FY08-FY09, and planned execution in FY09-FY12
- ***Several issues for BABAR IFC to resolve***
  - Proposal of transition in ownership of detector components on March 1, 2009, leaving DND responsibility with SLAC and DOE
  - SLAC will make a call for re-use proposals in anticipation of this transfer date, providing an opportunity for SuperB requests
  - DOE & SLAC will require contributions to offset DND costs from partners requesting re-use of equipment
- ***Goal: Agreement in principle at this meeting, final signoff at January 2009 meeting***

Stato e prospettive del calcolo

Attività 2008

- Ricostruzione e simulazione dati Run7
- Reprocessing (ricostruzione, simulazione e skimming) dei dati alla Y(4S)
  - Ricostruzione sara' completata entro fine settembre
  - Simulazione e skimming completati entro dicembre
  - Sara' il dataset finale (rel24)

Computing: attivita' INFN 2008

- Padova (Castelli, Solagna, Stroili + shifters PR):
  - Ricostruzione Run7 + reprocessing Run1-6
  - Simulazione da fine reprocessing in poi
  - Mantenimento seconda copia dei raw data

- CNAF (Fella, Ligioi):
  - Analisi AWG Charm + Y(3S) + Y(2S)

- Simulazione su GRID (Andreotti, Luppi, Fella, Ligioi)

- Tasks tipo C: Operations (Bianchi), RQM(Pelliccioni), Ricostruzione a SLAC (Cartaro), DQG (Cibinetto), Physics Software (Petrella)

Computing: piani 2009

- Simulazione (soprattutto segnale)
- Skimming: previsto un ciclo completo su tutti i dati
- Supporto per l'analisi (intense analysis period): SLAC. IN2P3, CNAF, Gridka

Computing: piani INFN 2009

- Simulazione su GRID
- Mantenimento seconda copia di raw data a Padova
- Supporto analisi al CNAF.

Richieste Computing 2009

- Serve conservare quanto abbiamo al CNAF:
  - CPU sono condivise
  - Spazio disco: 265 TB + 120 TB (gara 2008, in arrivo)
    - Analisi ancora su dati rel18 e rel22
    - Dati rel24 (dataset finale) disponibili solo a fine 2008
    - Al momento serve la capacita' di ospitare tutte queste releases
    - Asintoticamente (2010) ospiteremo solo rel24
- Task tipo C legati al computing:
  - Cartaro (Ts): 6 mu (DQG & Long Term Data Access)
  - Bianchi (To): 1.5 mu (chair CSC) + 1.5 mu (support to core computing)
  - Conteranno come contributo in kind ai computing professional che sono a carico INFN

2010 ed oltre

- Limitate produzioni centrali di MC e skimming e supporto all'analisi

- In Italia:
  - Seconda copia raw data a Padova
  - Analisi al CNAF

- Alla fine dell'intense analysis period (2011-2012?) analisi continuerà con modalità da definire

In conclusione

- La presa dati è finita, ma c'è ancora molto da fare!
  - Abbiamo diversificato la fisica
  - Siamo riusciti ad esplorare nuovi territori che ci stanno rivelando interessanti sorprese
  - L'analisi dei dati alla Y(4S) è tutt'altro che finita
- La comunità italiana è compatta, sia nel portare avanti le analisi dei dati di BaBar, sia nel lanciare il futuro di questa linea scientifica: SuperB