Sommario CSN1, Roma 19-23/09/2016

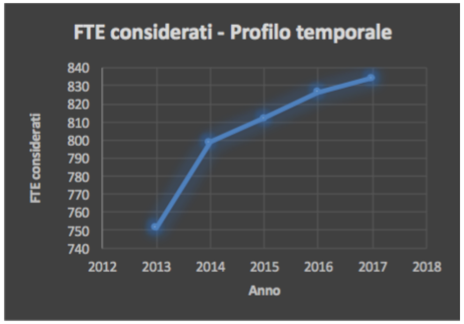
Consiglio di Sezione, Milano 12/10/2016

Attilio Andreazza

Bilancio generale

	Missioni	Consumi	Inventariabile	Apparati	Totale
Preventivi 2015	12960	9038	2814	(*)4605	(*)30401
Assegnazioni 2015	8300	4904	900	5596	19700
Preventivi 2016	14150	6990	2170	6382	(**)29692
Assegnazioni 2016	8300	5684	644	5072	19700
Preventivi 2017	12460	8370	2034	7300	30160
Assegnazioni 2017	8300	5740	660	6000	20700

- 835 FTE nel 2017 (includendo partecipazioni su fondi esterni)
- Picco di costruzione apparati
  - in parte coperto anticipando 500 k€ al 2016 e spostando 300 k€ al 2018.
  - Costruzione di MU2E, PADME, upgrade di **fase-1 exp. LHC**, **Calcolo**
  - Coperto grazie ad un aumento di bilancio totale di 1 M€
- Disavanzo dopo il referaggio, assorbito dagli esperimenti LHC:
  - ridotte del 7% le missioni (comunque assegnato maggiore del 2016)
  - ~50% MOF-B a costituire il fondo indiviso (di soli 350 k€)
  - Ridotto il buffer di metabolismo (-33%, era stato -50% nel 2016!)



(*) Non mi torna il totale delle richieste (DB assegnazioni) con quello nei preventivi, la differenza, 1M probabilmente in Apparati.
(**) 3M di richieste aggiuntive presentate in aggiunta ai preventivi.

Sezione di Milano

Sigla	FTE Ric.+Tecn.		Missioni		Consumi		Invent./Apparati	
	2017	*2016*	2017	*2016*	2017	*2016*	2017	*2016*
ATLAS *+RD_FASE2*	**16.1** **+6.2**	*15.4* *+3.9*	**136**	*125*	**91+39sj**	*146+75sj*	**225+110sj**	*215+250sj*
P-ILC → RD_FA	**0.6**	-	**su R.N.**	*10 su dot.*				
LHC-B	**4.9**	*4.9*	**36**	*43*	**12**	*20*	**195**	*55+20*
Dotazioni	**28.4**	*25*	**25**	*25*	**14.5**	*13*	**23.5**	*20*

Nuova sigla per iniziative future.
R.N. Franco Bedeschi (PI)

- Sostanziale livello di FTE per partecipazione a progetti di CSN5 e fondi esterni (~4, 5 nel 2015)
- ATLAS: conclusione di RD_FASE2 e FTK, ma produzione di baseplanes e power boards per upgrade fase 1 di LAr
- LHCb: costruzione dell'Upstream Tracker per upgrade LHCb
- Milano riceve MOF-B per:
  - ATLAS Pixel, Inner Detector, LAr
  - LHC-b Upstream Tracker

RD_FA - struttura

Kick-off meeting
9-10 novembre
a Roma 3

- Totale 13 sezioni e 69 ricercatori

- WP 1: Simulation/Physics - 8 sez./43 pers.
- WP 2: MDI - 2 sez./ 3 pers.
- WP 3: Pixels - 2 sez./ 6 pers. Milano
- WP 4: RICH/TPC - 1 sez./ 7 pers.
- WP 5: Drift Chamber - 1 sez./ 6 pers.
- WP 6: Si tracker - 1 sez./ 6 pers.
- WP 7: MPGD muon - 4 sez./11 pers.
- WP 8: Muon Collider - 6 sez./27 pers. Milano

F. Bedeschi – 21/09/2016

RD FA: Delegazione in Cina

Beijing

- Sito http://indico.ihep.ac.cn/event/6149/other-view?view=standard
- Delegazione italiana (Italian parallel session!):
  - Azzi*, Bedeschi, Caccia*, De Filippis, Fano'*, Giacomelli*, Grancagnolo*
  - Baldini, Maggiora, Pagani (*Speakers)

WP 8 – μ colliders

- Sistemi alternativi di produzione di μ per colliders
  - Responsabile: Antonelli
  - Sezioni coinvolte: FE, LNF, MI, PD, PI, RM1

Serafini, Curatolo
Fotoproduzione γ+p

- Attivita':
  - Studio fondi macchina e proposta rivelatore multi-TeV
  - Studi e test su fascio di targhette e sistemi di cooling
    - Test beam su H4 al CERN nel 2017
  - Studi ottica ring positroni
  - Studio produzione con fotoni

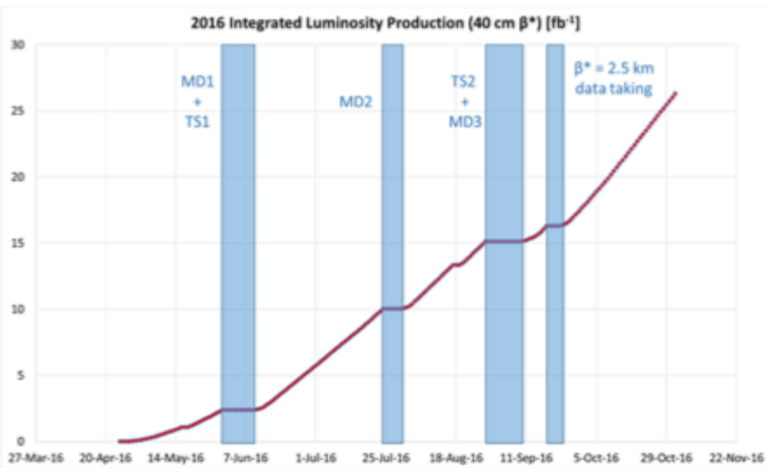
- Richieste:
  - MI: Metabolismo + Test Beam 33.5 k€ = 12 pers. x 3 wk
  - Test Beam → Cons, App, Trasp, Manut = 77 k€

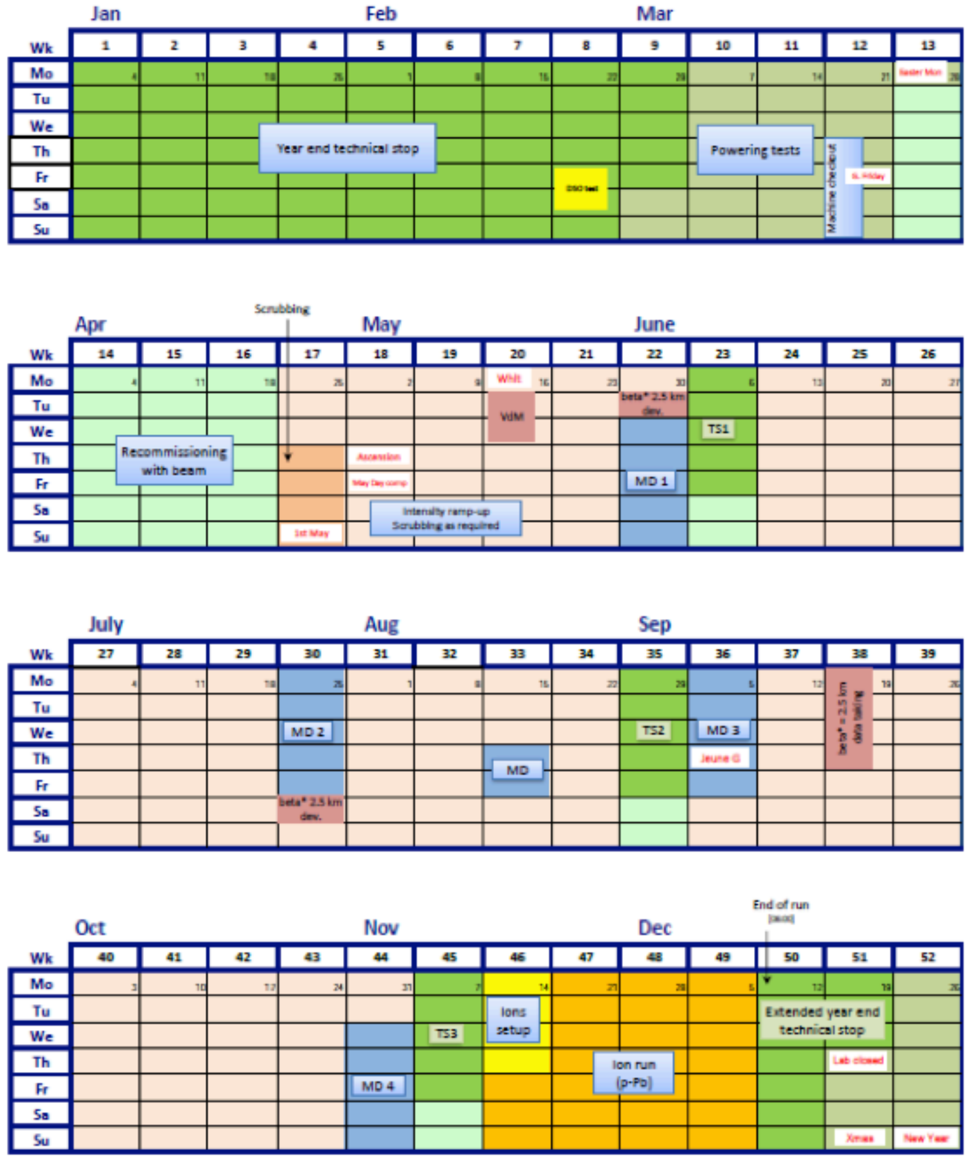
Le previsioni di LHC…

LHC schedule 2016

2016: a production year

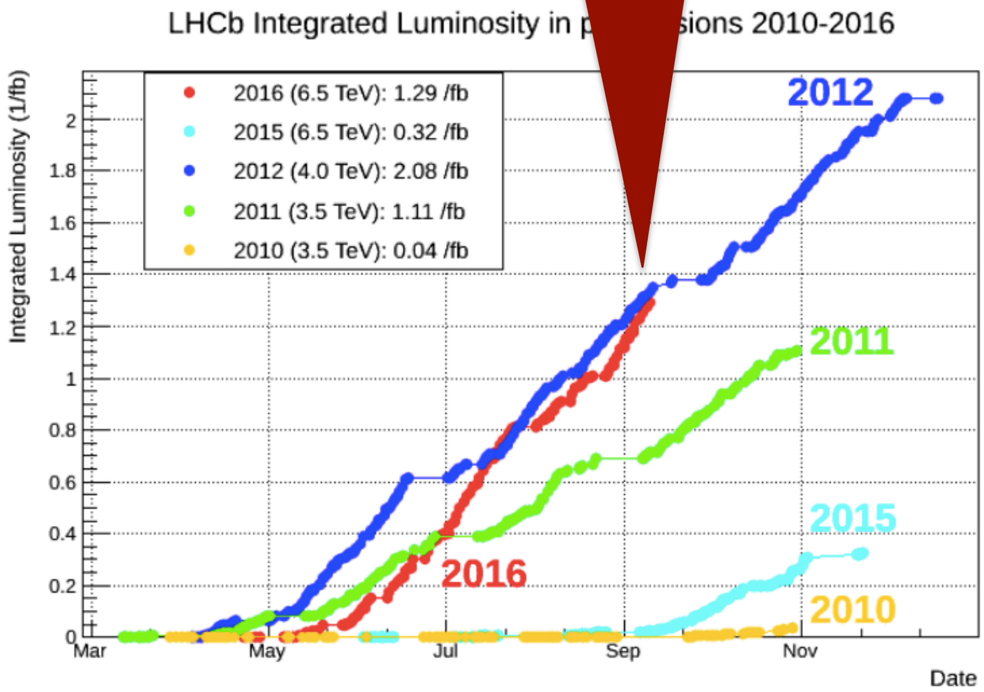
Integrated luminosity goal: 2016 : ~ 25 fb^{-1} at 13 TeV c.m

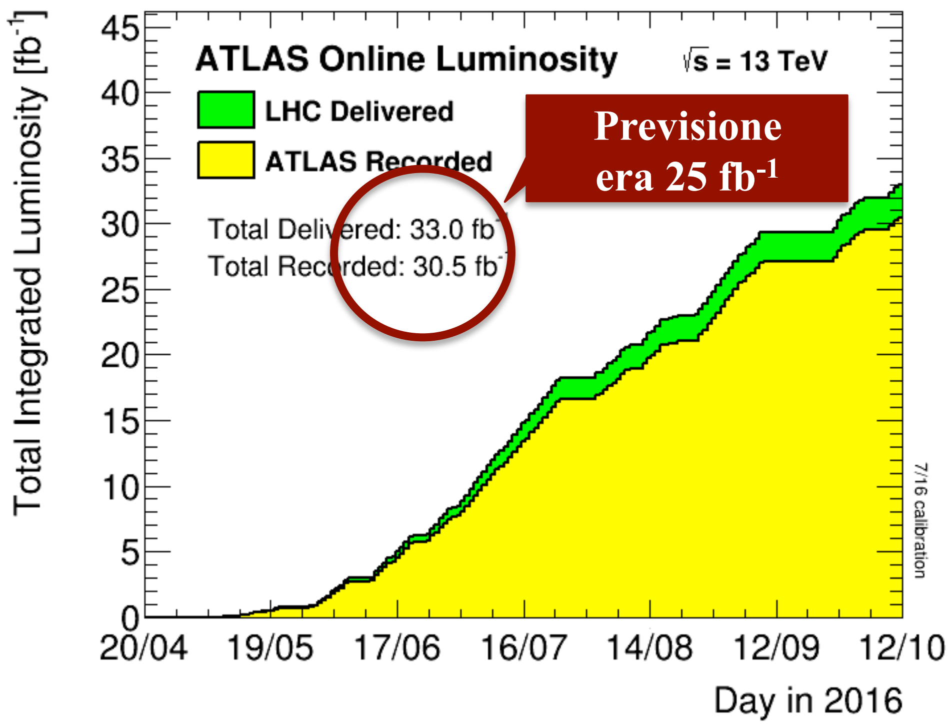




...ed i fatti!

Maggiore del 2012 se si tiene conto dell'aumento della sezione d'urto





Previsione era 25 fb^{-1}

Summary: 2015-2016: Peak Performance

Parameter	2015	2016	Nominal
Energy [TeV]	6.5	6.5	7.0
N_b [10^{11} p/bunch]	1.2	1.2	1.15
k (no. bunches)	2244	2220	2808
Bunch spacing [ns]	25	25	25
Stored energy [MJ]	280	280	362
ε^* [μm]	3.5	3.5 → 2.0	3.75
β^* [m]	0.8	0.4	0.55
Full crossing angle [μrad]	290	370→280	285
L [10^{34} cm^{-2}s^{-1}]	0.5	1.2	1.0
Average Pile-up @ beg. of fill	28	40	26

The choice of challenging accelerator parameters has paid off!!

Molti risultati da questi dati

ATLAS SUSY Searches* - 95% CL Lower Limits

Status: August 2016

RUN 2

ATLAS Preliminary

$\sqrt{s}$ = 7, 8, 13 TeV

	Model	e,μ,τ,γ	Jets	E_T^{miss}	$\int\mathcal{L}\,dt[\mathrm{fb}^{-1}]$	Mass limit ($\sqrt{s}$ = 7, 8 TeV / $\sqrt{s}$ = 13 TeV)		Reference
Inclusive Searches	MSUGRA/CMSSM	0-3 e,μ/1-2 τ	2-10 jets/3 b	Yes	20.3	$\tilde q,\tilde g$ 1.85 TeV	$m(\tilde q)=m(\tilde g)$	1507.05525
	$\tilde q\tilde q$, $\tilde q\to q\tilde\chi_1^0$	0	2-6 jets	Yes	13.3	$\tilde q$ 1.35 TeV	$m(\tilde\chi_1^0)$<200 GeV, m(1st gen. $\tilde q$)=m(2nd gen. $\tilde q$)	ATLAS-CONF-2016-078
	$\tilde q\tilde q$, $\tilde q\to q\tilde\chi_1^0$ (compressed)	mono-jet	1-3 jets	Yes	3.2	$\tilde q$ 608 GeV	$m(\tilde q)$-$m(\tilde\chi_1^0)$<5 GeV	1604.07773
	$\tilde g\tilde g$, $\tilde g\to q\bar q\tilde\chi_1^0$	0	2-6 jets	Yes	13.3	$\tilde g$ 1.86 TeV	$m(\tilde\chi_1^0)$=0 GeV	ATLAS-CONF-2016-078
	$\tilde g\tilde g$, $\tilde g\to qq\tilde\chi_1^\pm\to qqW^\pm\tilde\chi_1^0$	0	2-6 jets	Yes	13.3	$\tilde g$ 1.83 TeV	$m(\tilde\chi_1^0)$<400 GeV, $m(\tilde\chi^\pm)=0.5(m(\tilde\chi_1^0)+m(\tilde g))$	ATLAS-CONF-2016-078
	$\tilde g\tilde g$, $\tilde g\to qq(\ell\ell/\nu\nu)\tilde\chi_1^0$	3 e,μ	4 jets	-	13.2	$\tilde g$ 1.7 TeV	$m(\tilde\chi_1^0)$<400 GeV	ATLAS-CONF-2016-037
	$\tilde g\tilde g$, $\tilde g\to qqWZ\tilde\chi_1^0$	2 e,μ (SS)	0-3 jets	Yes	13.2	$\tilde g$ 1.6 TeV	$m(\tilde\chi_1^0)$ <500 GeV	ATLAS-CONF-2016-037
	GMSB ($\tilde\ell$ NLSP)	1-2 τ + 0-1 ℓ	0-2 jets	Yes	3.2	$\tilde g$ 2.0 TeV		1607.05979
	GGM (bino NLSP)	2 γ	-	Yes	3.2	$\tilde g$ 1.65 TeV	$c\tau$(NLSP)<0.1 mm	1606.09150
	GGM (higgsino-bino NLSP)	γ	1 b	Yes	20.3	$\tilde g$ 1.37 TeV	$m(\tilde\chi_1^0)$<950 GeV, $c\tau$(NLSP)<0.1 mm, μ<0	1507.05493
	GGM (higgsino-bino NLSP)	γ	2 jets	Yes	13.3	$\tilde g$ 1.8 TeV	$m(\tilde\chi_1^0)$>680 GeV, $c\tau$(NLSP)<0.1 mm, μ>0	ATLAS-CONF-2016-066
	GGM (higgsino NLSP)	2 e,μ (Z)	2 jets	Yes	20.3	$\tilde g$ 900 GeV	m(NLSP)>430 GeV	1503.03290
	Gravitino LSP	0	mono-jet	Yes	20.3	$F^{1/2}$ scale 865 GeV	$m(\tilde G)>1.8\times10^{-4}$ eV, $m(\tilde g)=m(\tilde q)$=1.5 TeV	1502.01518
3^{rd} gen. $\tilde g$ med.	$\tilde g\tilde g$, $\tilde g\to b\bar b\tilde\chi_1^0$	0	3 b	Yes	14.8	$\tilde g$ 1.89 TeV	$m(\tilde\chi_1^0)$=0 GeV	ATLAS-CONF-2016-052
	$\tilde g\tilde g$, $\tilde g\to t\bar t\tilde\chi_1^0$	0-1 e,μ	3 b	Yes	14.8	$\tilde g$ 1.89 TeV	$m(\tilde\chi_1^0)$=0 GeV	ATLAS-CONF-2016-052
	$\tilde g\tilde g$, $\tilde g\to b\bar t\tilde\chi_1^+$	0-1 e,μ	3 b	Yes	20.1	$\tilde g$ 1.37 TeV	$m(\tilde\chi_1^0)$<300 GeV	1407.0600
3^{rd} gen. squarks direct production	$\tilde b_1\tilde b_1$, $\tilde b_1\to b\tilde\chi_1^0$	0	2 b	Yes	3.2	$\tilde b_1$ 840 GeV	$m(\tilde\chi_1^0)$<100 GeV	1606.08772
	$\tilde b_1\tilde b_1$, $\tilde b_1\to t\tilde\chi_1^\pm$	2 e,μ (SS)	1 b	Yes	13.2	$\tilde b_1$ 325-685 GeV	$m(\tilde\chi_1^0)$<150 GeV, $m(\tilde\chi_1^\pm)=m(\tilde\chi_1^0)$+100 GeV	ATLAS-CONF-2016-037
	$\tilde t_1\tilde t_1$, $\tilde t_1\to b\tilde\chi_1^\pm$	0-2 e,μ	1-2 b	Yes	4.7/13.3	$\tilde t_1$ 117-170 GeV, 200-720 GeV	$m(\tilde\chi_1^\pm)=2m(\tilde\chi_1^0)$, $m(\tilde\chi_1^0)$=55 GeV	1209.2102, ATLAS-CONF-2016-077
	$\tilde t_1\tilde t_1$, $\tilde t_1\to Wb\tilde\chi_1^0$ or $t\tilde\chi_1^0$	0-2 e,μ	0-2 jets/1-2 b	Yes	4.7/13.3	$\tilde t_1$ 90-198 GeV, 205-850 GeV	$m(\tilde\chi_1^0)$=1 GeV	1506.08616, ATLAS-CONF-2016-077
	$\tilde t_1\tilde t_1$, $\tilde t_1\to c\tilde\chi_1^0$	0	mono-jet	Yes	3.2	$\tilde t_1$ 90-323 GeV	$m(\tilde t_1)$-$m(\tilde\chi_1^0)$=5 GeV	1604.07773
	$\tilde t_1\tilde t_1$ (natural GMSB)	2 e,μ (Z)	1 b	Yes	20.3	$\tilde t_1$ 150-600 GeV	$m(\tilde\chi_1^0)$>150 GeV	1403.5222
	$\tilde t_2\tilde t_2$, $\tilde t_2\to\tilde t_1+Z$	3 e,μ (Z)	1 b	Yes	13.3	$\tilde t_2$ 290-700 GeV	$m(\tilde\chi_1^0)$<300 GeV	ATLAS-CONF-2016-038
	$\tilde t_2\tilde t_2$, $\tilde t_2\to\tilde t_1+h$	1 e,μ	6 jets + 2 b	Yes	20.3	$\tilde t_2$ 320-620 GeV	$m(\tilde\chi_1^0)$=0 GeV	1506.08616
EW direct	$\tilde\ell_{L,R}\tilde\ell_{L,R}$, $\tilde\ell\to\ell\tilde\chi_1^0$	2 e,μ	0	Yes	20.3	$\tilde\ell$ 90-335 GeV	$m(\tilde\chi_1^0)$=0 GeV	1403.5294
	$\tilde\chi_1^+\tilde\chi_1^-$, $\tilde\chi_1^+\to\tilde\ell\nu(\ell\tilde\nu)$	2 e,μ	0	Yes	20.3	$\tilde\chi_1^\pm$ 140-475 GeV	$m(\tilde\chi_1^0)$=0 GeV, $m(\tilde\ell,\tilde\nu)=0.5(m(\tilde\chi_1^\pm)+m(\tilde\chi_1^0))$	1403.5294
	$\tilde\chi_1^+\tilde\chi_1^-$, $\tilde\chi_1^+\to\tilde\tau\nu(\tau\tilde\nu)$	2 τ	-	Yes	20.3	$\tilde\chi_1^\pm$ 355 GeV	$m(\tilde\chi_1^0)$=0 GeV, $m(\tilde\tau,\tilde\nu)=0.5(m(\tilde\chi_1^\pm)+m(\tilde\chi_1^0))$	1407.0350
	$\tilde\chi_1^\pm\tilde\chi_2^0\to\tilde\ell_L\nu\tilde\ell_L\ell(\tilde\nu\nu)$, $\ell\tilde\nu\tilde\ell_L\ell(\tilde\nu\nu)$	3 e,μ	0	Yes	20.3	$\tilde\chi_1^\pm,\tilde\chi_2^0$ 715 GeV	$m(\tilde\chi_1^\pm)=m(\tilde\chi_2^0)$, $m(\tilde\chi_1^0)$=0, $m(\tilde\ell,\tilde\nu)=0.5(m(\tilde\chi_1^\pm)+m(\tilde\chi_1^0))$	1402.7029
	$\tilde\chi_1^\pm\tilde\chi_2^0\to W\tilde\chi_1^0Z\tilde\chi_1^0$	2-3 e,μ	0-2 jets	Yes	20.3	$\tilde\chi_1^\pm,\tilde\chi_2^0$ 425 GeV	$m(\tilde\chi_1^\pm)=m(\tilde\chi_2^0)$, $m(\tilde\chi_1^0)$=0, $\tilde\ell$ decoupled	1403.5294, 1402.7029
	$\tilde\chi_1^\pm\tilde\chi_2^0\to W\tilde\chi_1^0h\tilde\chi_1^0$, $h\to b\bar b/WW/\tau\tau/\gamma\gamma$	e,μ,γ	0-2 b	Yes	20.3	$\tilde\chi_1^\pm,\tilde\chi_2^0$ 270 GeV	$m(\tilde\chi_1^\pm)=m(\tilde\chi_2^0)$, $m(\tilde\chi_1^0)$=0, $\tilde\ell$ decoupled	1501.07110
	$\tilde\chi_2^0\tilde\chi_3^0$, $\tilde\chi_{2,3}^0\to\tilde\ell_R\ell$	4 e,μ	0	Yes	20.3	$\tilde\chi_{2,3}^0$ 635 GeV	$m(\tilde\chi_2^0)=m(\tilde\chi_3^0)$, $m(\tilde\chi_1^0)$=0, $m(\tilde\ell,\tilde\nu)=0.5(m(\tilde\chi_2^0)+m(\tilde\chi_1^0))$	1405.5086
	GGM (wino NLSP) weak prod.	1 $e,\mu+\gamma$	-	Yes	20.3	$\tilde W$ 115-370 GeV	$c\tau$<1 mm	1507.05493
	GGM (bino NLSP) weak prod.	2 γ	-	Yes	20.3	$\tilde W$ 590 GeV	$c\tau$<1 mm	1507.05493
Long-lived particles	Direct $\tilde\chi_1^+\tilde\chi_1^-$ prod., long-lived $\tilde\chi_1^\pm$	Disapp. trk	1 jet	Yes	20.3	$\tilde\chi_1^\pm$ 270 GeV	$m(\tilde\chi_1^\pm)$-$m(\tilde\chi_1^0)$~160 MeV, $\tau(\tilde\chi_1^\pm)$=0.2 ns	1310.3675
	Direct $\tilde\chi_1^+\tilde\chi_1^-$ prod., long-lived $\tilde\chi_1^\pm$	dE/dx trk	-	Yes	18.4	$\tilde\chi_1^\pm$ 495 GeV	$m(\tilde\chi_1^\pm)$-$m(\tilde\chi_1^0)$~160 MeV, $\tau(\tilde\chi_1^\pm)$<15 ns	1506.05332
	Stable, stopped $\tilde g$ R-hadron	0	1-5 jets	Yes	27.9	$\tilde g$ 850 GeV	$m(\tilde\chi_1^0)$=100 GeV, 10 μs<$\tau(\tilde g)$<1000 s	1310.6584
	Stable $\tilde g$ R-hadron	trk	-	-	3.2	$\tilde g$ 1.58 TeV		1606.05129
	Metastable $\tilde g$ R-hadron	dE/dx trk	-	-	3.2	$\tilde g$ 1.57 TeV	$m(\tilde\chi_1^0)$=100 GeV, τ>10 ns	1604.04520
	GMSB, stable $\tilde\tau$, $\tilde\chi_1^0\to\tilde\tau(\tilde e,\tilde\mu)+\tau(e,\mu)$	1-2 μ	-	-	19.1	$\tilde\chi_1^0$ 537 GeV	10<tanβ<50	1411.6795
	GMSB, $\tilde\chi_1^0\to\gamma\tilde G$, long-lived $\tilde\chi_1^0$	2 γ	-	Yes	20.3	$\tilde\chi_1^0$ 440 GeV	1<$\tau(\tilde\chi_1^0)$<3 ns, SPS8 model	1409.5542
	$\tilde g\tilde g$, $\tilde\chi_1^0\to ee\nu/e\mu\nu/\mu\mu\nu$	displ. $ee/e\mu/\mu\mu$	-	-	20.3	$\tilde\chi_1^0$ 1.0 TeV	7 <$c\tau(\tilde\chi_1^0)$< 740 mm, $m(\tilde g)$=1.3 TeV	1504.05162
	GGM $\tilde g\tilde g$, $\tilde\chi_1^0\to Z\tilde G$	displ. vtx + jets	-	-	20.3	$\tilde\chi_1^0$ 1.0 TeV	6 <$c\tau(\tilde\chi_1^0)$< 480 mm, $m(\tilde g)$=1.1 TeV	1504.05162
RPV	LFV $pp\to\tilde\nu_\tau+X$, $\tilde\nu_\tau\to e\mu/e\tau/\mu\tau$	$e\mu,e\tau,\mu\tau$	-	-	3.2	$\tilde\nu_\tau$ 1.9 TeV	λ'_{311}=0.11, $\lambda_{132/133/233}$=0.07	1607.08079
	Bilinear RPV CMSSM	2 e,μ (SS)	0-3 b	Yes	20.3	$\tilde q,\tilde g$ 1.45 TeV	$m(\tilde q)=m(\tilde g)$, $c\tau_{LSP}$<1 mm	1404.2500
	$\tilde\chi_1^+\tilde\chi_1^-$, $\tilde\chi_1^+\to W\tilde\chi_1^0$, $\tilde\chi_1^0\to ee\nu, e\mu\nu, \mu\mu\nu$	4 e,μ	-	Yes	13.3	$\tilde\chi_1^\pm$ 1.14 TeV	$m(\tilde\chi_1^0)$>400GeV, $\lambda_{12k}\neq0$ ($k=1,2$)	ATLAS-CONF-2016-075
	$\tilde\chi_1^+\tilde\chi_1^-$, $\tilde\chi_1^+\to W\tilde\chi_1^0$, $\tilde\chi_1^0\to\tau\tau\nu_e, e\tau\nu_\tau$	3 $e,\mu+\tau$	-	Yes	20.3	$\tilde\chi_1^\pm$ 450 GeV	$m(\tilde\chi_1^0)>0.2\times m(\tilde\chi_1^\pm)$, $\lambda_{133}\neq0$	1405.5086
	$\tilde g\tilde g$, $\tilde g\to qqq$	0	4-5 large-R jets	-	14.8	$\tilde g$ 1.08 TeV	BR(t)=BR(b)=BR(c)=0%	ATLAS-CONF-2016-057
	$\tilde g\tilde g$, $\tilde g\to qq\tilde\chi_1^0$, $\tilde\chi_1^0\to qqq$	0	4-5 large-R jets	-	14.8	$\tilde g$ 1.55 TeV	$m(\tilde\chi_1^0)$=800 GeV	ATLAS-CONF-2016-057
	$\tilde g\tilde g$, $\tilde g\to\tilde t_1t$, $\tilde t_1\to bs$	2 e,μ (SS)	0-3 b	Yes	13.2	$\tilde g$ 1.3 TeV	$m(\tilde t_1)$<750 GeV	ATLAS-CONF-2016-037
	$\tilde t_1\tilde t_1$, $\tilde t_1\to bs$	0	2 jets + 2 b	-	15.4	$\tilde t_1$ 410 GeV, 450-510 GeV		ATLAS-CONF-2016-022, ATLAS-CONF-2016-084
	$\tilde t_1\tilde t_1$, $\tilde t_1\to b\ell$	2 e,μ	2 b	-	20.3	$\tilde t_1$ 0.4-1.0 TeV	BR($\tilde t_1\to be/\mu$)>20%	ATLAS-CONF-2015-015
Other	Scalar charm, $\tilde c\to c\tilde\chi_1^0$	0	2 c	Yes	20.3	$\tilde c$ 510 GeV	$m(\tilde\chi_1^0)$<200 GeV	1501.01325

Mass scale [TeV] (10^{-1} – 1)

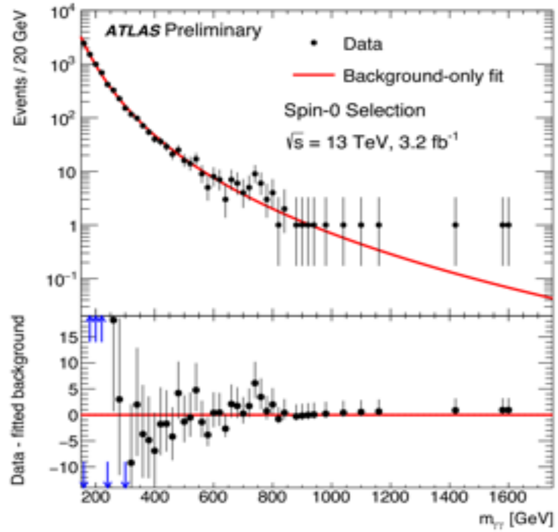
*Only a selection of the available mass limits on new states or phenomena is shown.

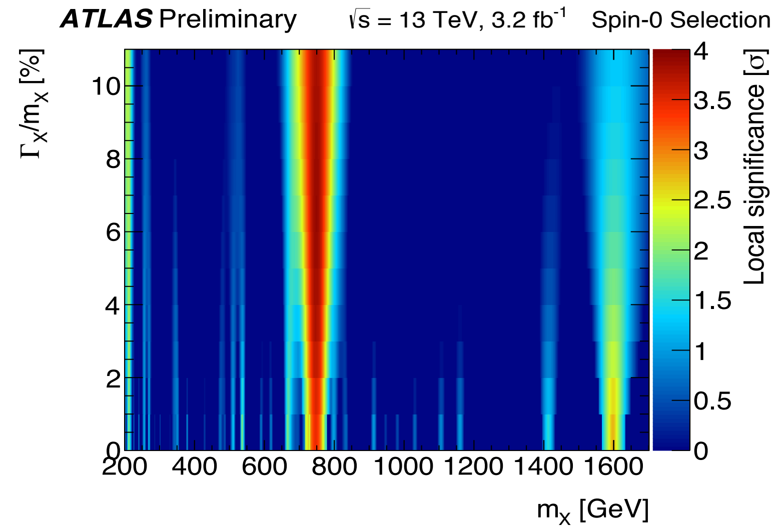
γγ excess

ATLAS-CONF-2016-018

1. Intringuing excess in di-photon at the end of 2015;
2. confirmed by two independent analysis groups and scrutinised for systematic effectt for months;
3. observed also by CMS almost at the same mass;
4. pointing somehow to large width resonance in ATLAS, small in CMS (only hint of statistical fluctuations..)

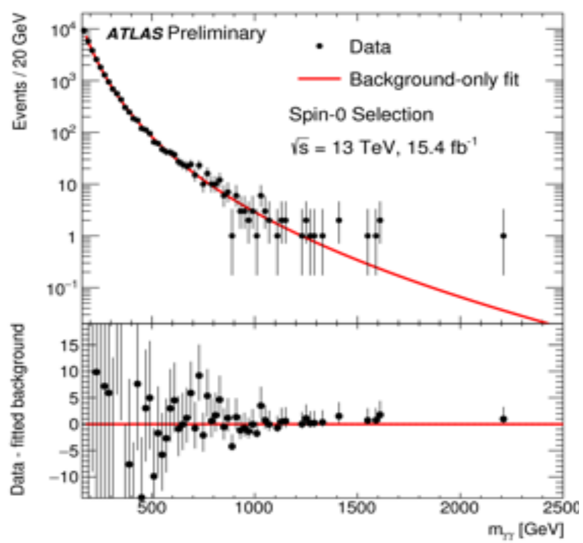
3.9 σ local @ 750 GeV
2.0 σ on γγ search

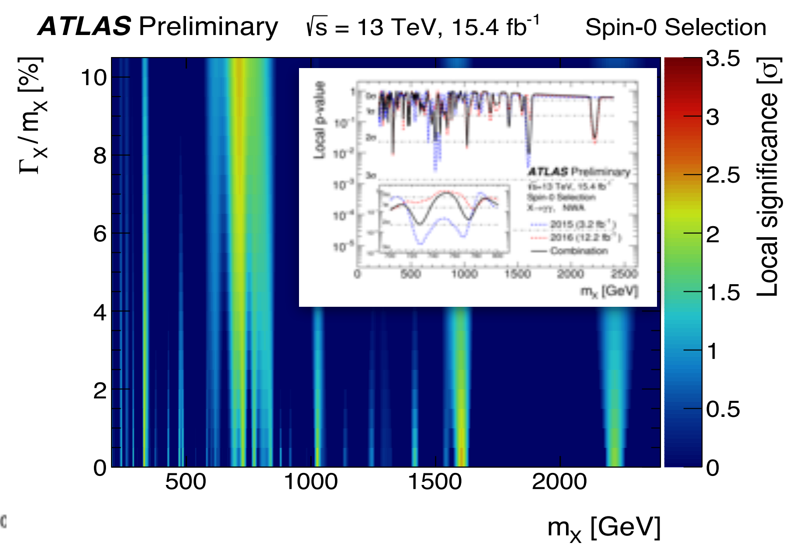




ATLAS-CONF-2016-059

1. < 1 σ local @ 750 GeV, using 2016 data only;
2. picture changed already after re-processing of 2015 data with improved photon identification algorithms: 2 events were affected:
    a. one event close to the crack region, had a new energy calibration moving mass from 757 to 722 GeV;
    b. one event was identified as conv. photon in 2015 and non isolated photon in reprocessing.





Tier 1: Resources requested in September

Experiment	2016			2017			2017-Sept		
	CPU HS06	DISK TB-N	TAPE TB	CPU HS06	DISK TB-N	TAPE TB	CPU HS06	DISK TB-N	TAPE TB
ALICE	29045	3885	5460	38295	4477	6895	49210	4551	11900
ATLAS	46800	4230	10440	61380	5130	15570	82890	6120	16920
CMS	48000	3960	12000	66000	5880	16200	72000	6840	21000
LHCB	28080	3150	7578	35910	4085	7372	39330	5092	8227
Total LHC TIER1	**151925**	**15225**	**35478**	**201585**	**19572**	**46037**	**243430**	**22603**	**58047**

costs	Anno 2017			Anno 2017-sept		
	CPU kE	DISK kE	TAPE kE	CPU kE	DISK kE	TAPE kE
LHC	414	1296	264	763	1902	564
LHC (CSN1)	337	1080	228	595	1671	403
LHC (CSN3)	77	216	36	168	231	161
Total LHC	1974			3229		

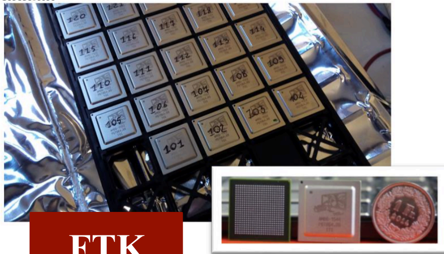
20% più dati
→ più risorse di calcolo TOTALI!

2017 Total CSN1 1645 kE
2017-sept Total CSN1 2669 kE

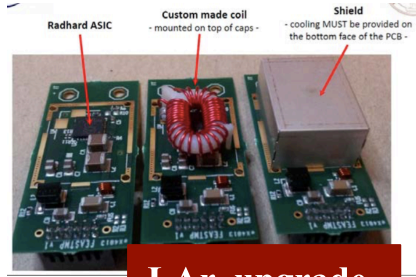
	kE 2017	kE 2017-b
ATLAS	565	977
CMS	800	1165
LHCb	280	526

Referee calcolo – 21/09/2016

...ed ora al lavoro!

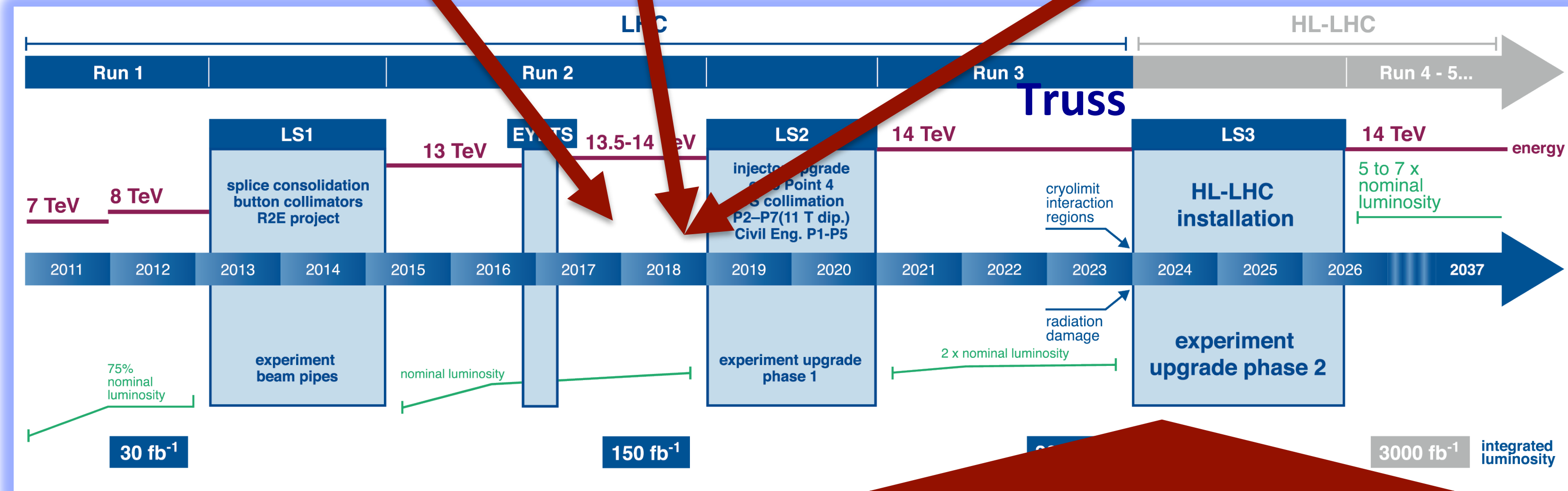


FTK



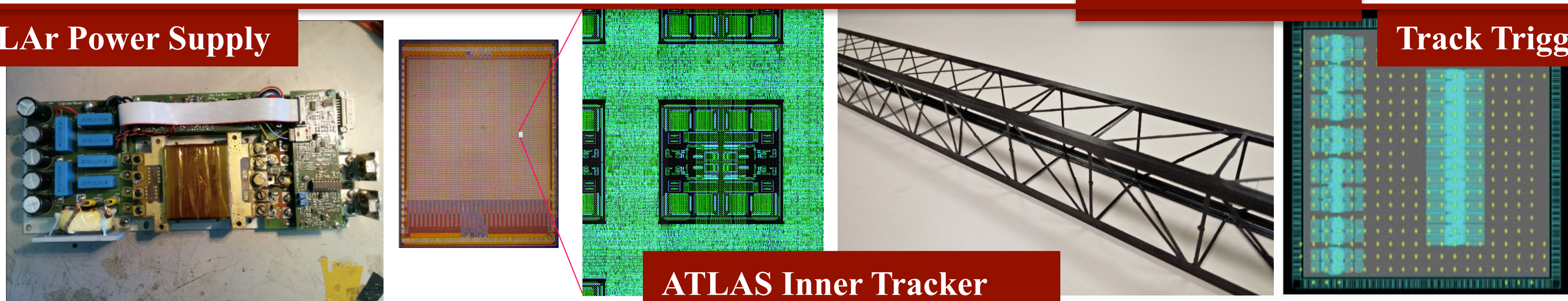
LAr upgrade

LHCb UT



Truss

RD_FASE2



LAr Power Supply

ATLAS Inner Tracker

Track Trigger