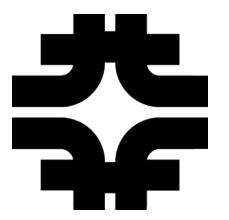
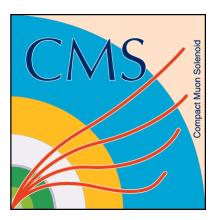
CMS and LHC Report

All Experimenters' Meeting

Kevin Pedro (FNAL)
July 3, 2017





LHC Schedule

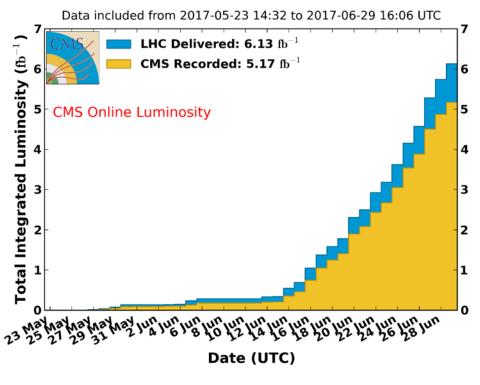
- Now in machine development / technical stop
- Last week:
 - o Instantaneous luminosity > 1.5×10^{34} /cm²/s! (\rightarrow pileup ~ 44)
 - o Integrated luminosity > 6 fb⁻¹!
 - o Completed last step of ramp: 2544 bunches colliding in CMS
- Soon: van der Meer scan

		Apr LHC to OP				May			peams June						
	Wk	14	15	16	17	18	19	20	21	22	23	24	25	26	
	Мо	3	10	Easter Mon 17	24	1st May	1 8	15	1 (29	Whit 5	12	19	26	
	Tu								*						
	We														
	Th				ecko				Ascension						
	Fr		G. Friday		Machine checkout	R	Recommissioning	g with	Interleaved commissioning and						
	Sa				Mach		beam			ramp-up				MD 1	
We are	Su														
We are here		July				Aug				Sep					
пстс	Wk	27	28	29	30	31	32	33	34	35	36	37	38	39	
	Мо	3	10	17		3	1 7	14	들 21	28	4	11	18	25	
	Tu				MD 2				Special physic run						
	We	TS1			— VdM run —				ecial p				TS2		
	Th								Sp		Jeune G				
	Fr											MD 3			
	Sa														
	Su														

Luminosity Plots

CMS Integrated Luminosity, pp, 2017, $\sqrt{s} = 13 \text{ TeV}$

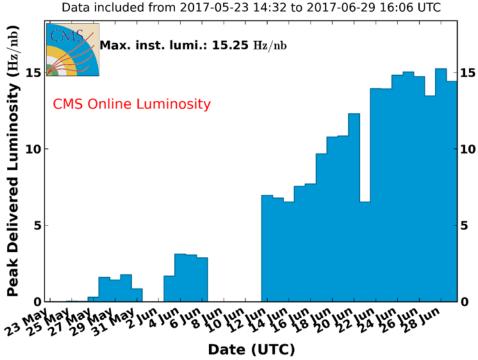
CMS LumiPublicResults



June 26: record 700 pb⁻¹ delivered in 24hrs

Maximum stored beam energy: 293 MJ (vs. 250 MJ in 2016)

CMS Peak Luminosity Per Day, pp, 2017, $\sqrt{s}=$ 13 TeV



CMS Status

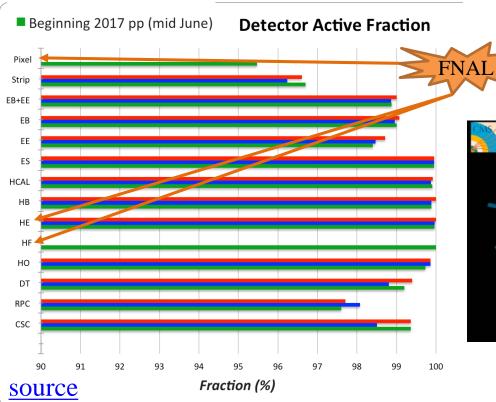
CMS had its 25th birthday!

• Taking physics data

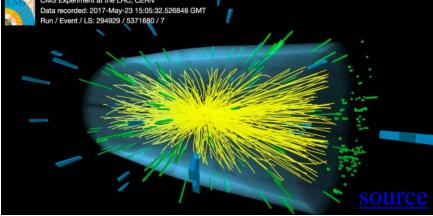
• All systems performing well

■ Beginning 2016 pp (Apr)

■ End of 2016 pp (Nov)

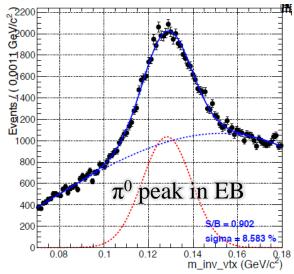


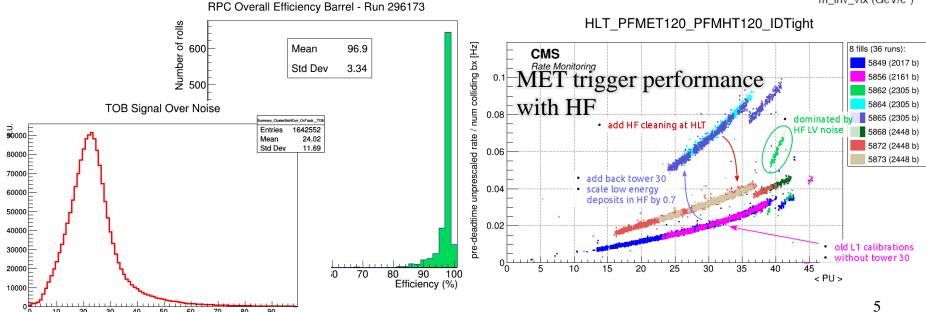




CMS Performance

- ECAL, strip tracker, muon systems maintaining good performance
- Developing HF noise filters using TDC and asymmetry information FNAL
- Refining operating parameters for BPIX and FPIX to improve efficiency
- Preparing new trigger menus based on initial data and expectations for higher luminosity





Physics & Computing

- HEP Software Foundation (HSF) workshop just finished major contributions from Fermilab in Community White Papers (CWP) to guide software/computing
- Data and MC processing:
 - o Legacy re-reco of 2016 data (36 fb⁻¹) almost finished
 - o Preparing larger MC campaign for 2017
 - o MC production for Phase 2 Muon + Barrel Calorimeter TDRs has begun

