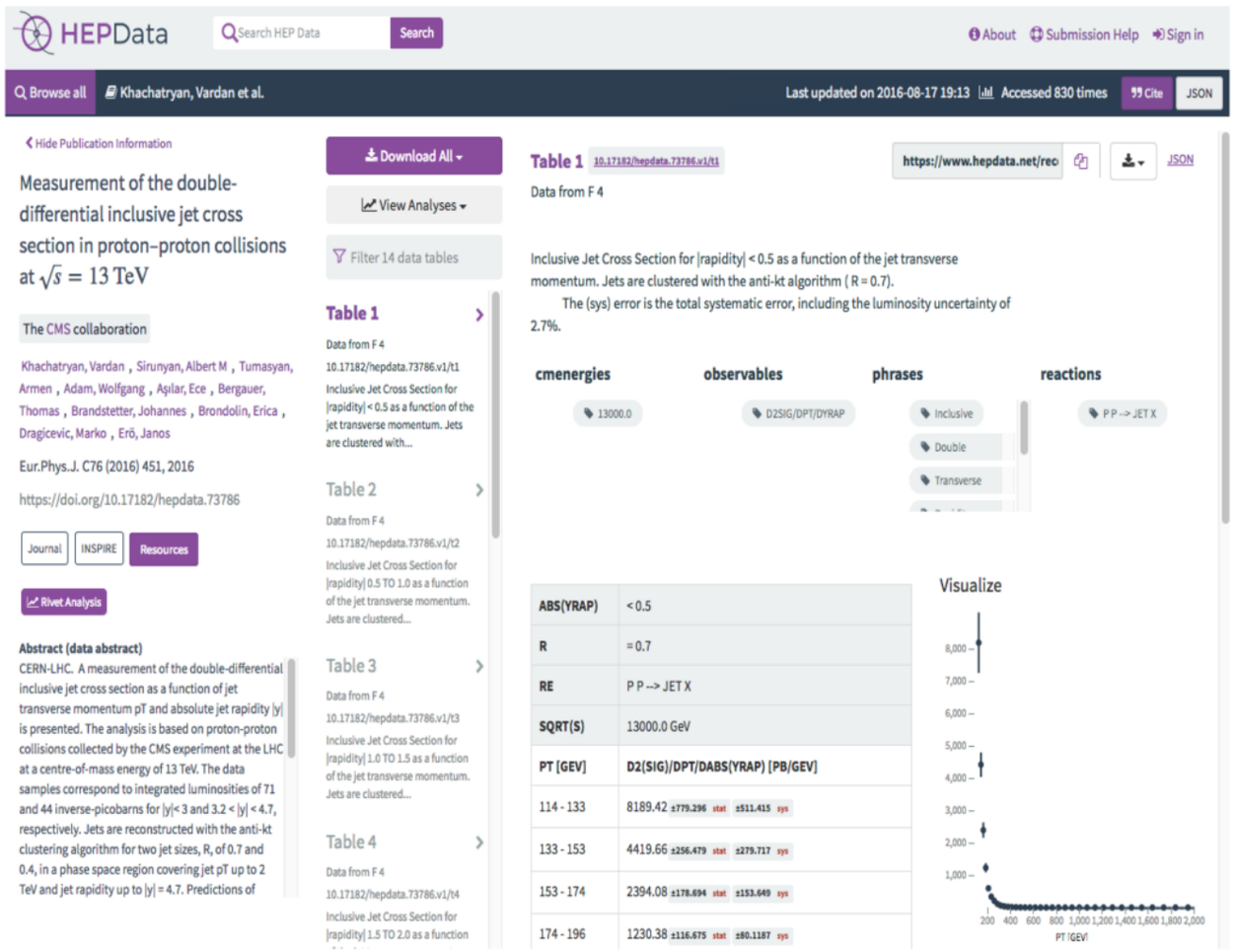
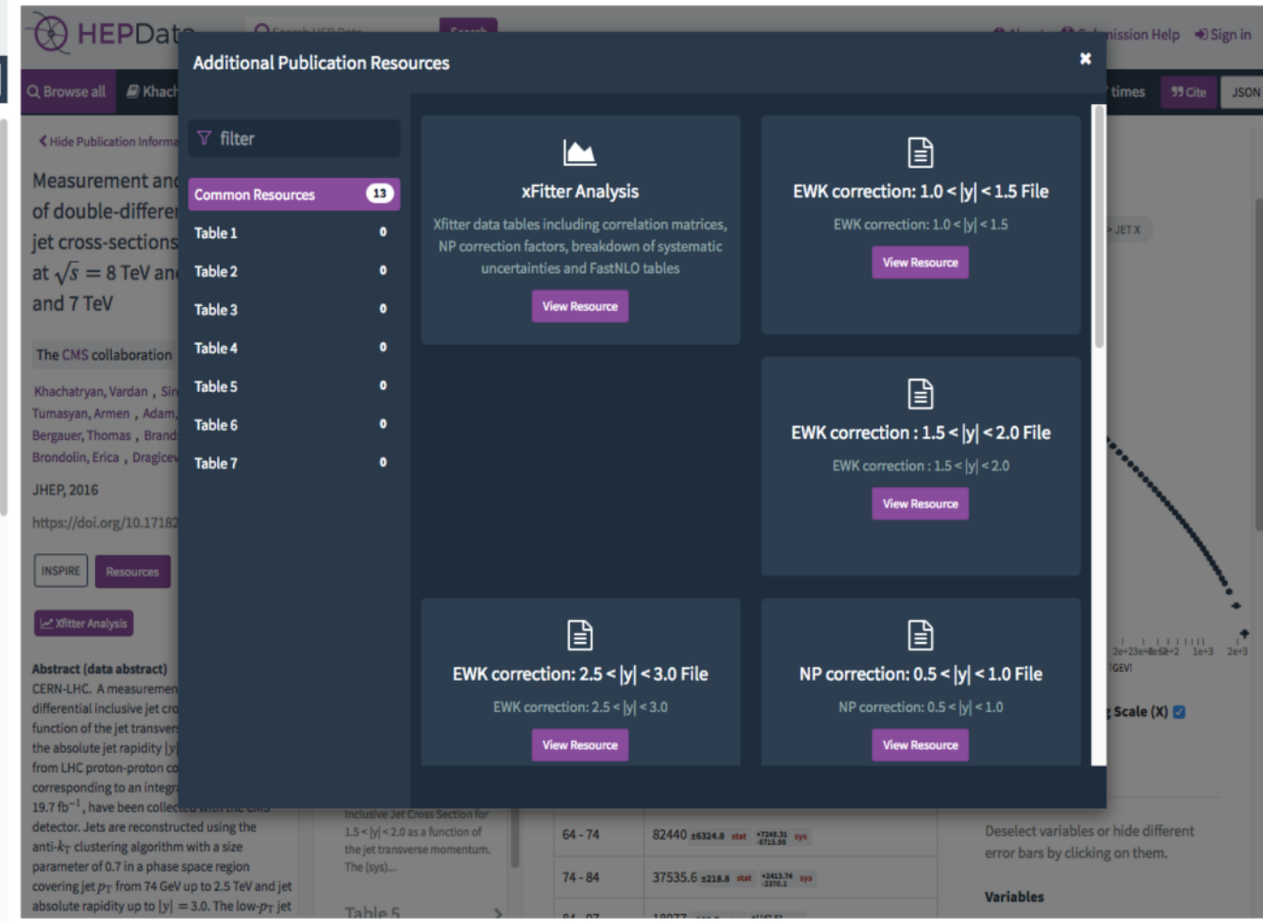
LHC EW WG 2: Jets and EW bosons

- Conveners:
  - ATLAS: Eram Rizvi, Heberth Torres
  - CMS: Hannes Jung, Emanuela Barberis
  - LHCb: Stephen Farry, Will Barter
  - TH: Marek Schoenherr

  - further reading: WG Twiki

Storing infos on HepData: Inclusive jets 13 TeV CMS





Storing infos on HepData: Inclusive jets 13 TeV CMS

- Correlation Matrix

CMS
Inclusive Jet Cross Section (50ns)
Energy : 13 TeV
Jet Cone Size : AK4

Rapidity Range : |y|<0.5
Correlation Coefficients Matrix

114- 133 :	1.00	0.24	-0.29	-0.14	0.09	0.06	0.01	-0.02	-0.01																				
133- 153 :	0.24	1.00	0.36	-0.25	-0.28	0.07	0.06	0.02	-0.01	-0.01																			
153- 174 :	-0.29	0.36	1.00	0.48	-0.31	-0.26	0.01	0.12	0.04		-0.01																		
174- 196 :	-0.14	-0.25	0.48	1.00	0.37	-0.49	-0.15	0.11	0.10	0.02		-0.01																	
196- 220 :	0.09	-0.28	-0.31	0.37	1.00	0.19	-0.26	-0.29	0.08	0.07	0.01																		
220- 245 :	0.06	0.07	-0.26	-0.49	0.19	1.00	0.48	-0.30	-0.32	-0.01	0.05	0.03																	
245- 272 :	0.01	0.06	0.01	-0.15	-0.26	0.48	1.00	0.45	-0.54	-0.18	0.04	0.07	0.02																
272- 300 :	-0.02	0.02	0.12	0.11	-0.29	-0.30	0.45	1.00	0.11	-0.26	-0.15	0.03	0.05	0.01															
300- 330 :	-0.01	-0.01	0.04	0.10	0.08	-0.32	-0.54	0.11	1.00	0.42	-0.21	-0.25	0.01	0.05	0.01														
330- 362 :		-0.01		0.02	0.07	-0.01	-0.18	-0.26	0.42	1.00	0.51	-0.22	-0.24	-0.01	0.05	0.02													
362- 395 :			-0.01		0.01	0.05	0.04	-0.15	-0.21	0.51	1.00	0.40	-0.34	-0.19	0.03	0.04	0.02												
395- 430 :				-0.01		0.03	0.07	0.03	-0.25	-0.22	0.40	1.00	0.37	-0.22	-0.20	0.00	0.05	0.02											
430- 468 :							0.02	0.05	0.01	-0.24	-0.34	0.37	1.00	0.45	-0.26	-0.19	0.00	0.05	0.02										
468- 507 :								0.01	0.05	-0.01	-0.19	-0.22	0.45	1.00	0.38	-0.24	-0.23	0.02	0.05	0.01									
507- 548 :									0.01	0.05	0.03	-0.20	-0.26	0.38	1.00	0.50	-0.19	-0.23	-0.02	0.04	0.01								
548- 592 :										0.02	0.04	0.00	-0.19	-0.24	0.50	1.00	0.42	-0.31	-0.19	0.01	0.03	0.01							
592- 638 :											0.02	0.05	0.00	-0.23	-0.19	0.42	1.00	0.40	-0.22	-0.19	-0.00	0.03	0.01						
638- 686 :												0.02	0.05	0.02	-0.23	-0.31	0.40	1.00	0.43	-0.24	-0.18	0.00	0.03	0.01					
686- 737 :													0.02	0.05	-0.02	-0.19	-0.22	0.43	1.00	0.43	-0.22	-0.19	-0.00	0.04	0.01				
737- 790 :														0.01	0.04	0.01	-0.19	-0.24	0.43	1.00	0.45	-0.22	-0.20	-0.00	0.04				
0.01																													
790- 846 :															0.01	0.03	-0.00	-0.18	-0.22	0.45	1.00	0.44	-0.22	-0.20	-0.00				
0.04	0.01																												
846- 905 :																0.01	0.03	0.00	-0.19	-0.22	0.44	1.00	0.44	-0.22	-0.19				
0.00	0.04	0.01																											
905- 967 :																	0.01	0.03	-0.00	-0.20	-0.22	0.44	1.00	0.45	-0.21				
-0.19	0.00	0.04	0.01																										
967-1032 :																		0.01	0.04	-0.00	-0.20	-0.22	0.45	1.00	0.44				
-0.25	-0.18	0.01	0.03	0.01																									
1032-1101 :																			0.01	0.04	-0.00	-0.19	-0.21	0.44	1.00				
0.43	-0.24	-0.19	-0.01	0.03	0.01																								

- Systematics

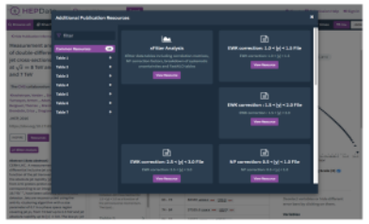
1 rapidity bin

pt low	pt high	NP Corr. Central	NP. Corr Up	NP.Corr. Down	Trig. Unc.	Unfold Unc.	Lumi Unc.	AbsoluteStat	AbsoluteScale	SinglePionECAL	Fragmentation	RelativeJERHF	Re
PileUpPtEC2	RelativeJEREC2	RelativeStatFSR	TimePt	TimeEta									
114.000	133.000	1.007	1.008	1.005	0.010	0.020	0.027	0.000	0.000	-0.035	0.038	-0.004	0.004
133.000	153.000	1.005	1.006	1.004	0.010	0.020	0.027	0.000	0.000	-0.034	0.035	-0.002	0.002
153.000	174.000	1.004	1.005	1.003	0.010	0.020	0.027	0.000	0.000	-0.036	0.036	-0.002	0.002
174.000	196.000	1.002	1.003	1.002	0.010	0.020	0.027	-0.001	0.001	-0.034	0.034	-0.002	0.001
196.000	220.000	1.001	1.002	1.000	0.010	0.020	0.027	-0.006	0.005	-0.035	0.038	-0.001	0.001
220.000	245.000	1.000	1.001	0.999	0.010	0.020	0.027	-0.003	0.005	-0.038	0.040	-0.001	0.001
245.000	272.000	0.999	0.999	0.998	0.010	0.020	0.027	-0.005	0.006	-0.035	0.036	0.000	0.000
272.000	300.000	0.998	0.998	0.998	0.010	0.020	0.027	-0.010	0.008	-0.039	0.037	-0.001	0.001
300.000	330.000	0.997	0.997	0.997	0.010	0.020	0.027	-0.014	0.013	-0.037	0.039	-0.001	0.000
330.000	362.000	0.996	0.996	0.996	0.010	0.020	0.027	-0.017	0.016	-0.038	0.043	-0.001	0.001
362.000	395.000	0.995	0.995	0.995	0.010	0.020	0.027	-0.015	0.018	-0.040	0.038	-0.001	0.001
395.000	430.000	0.994	0.994	0.994	0.010	0.020	0.027	-0.020	0.018	-0.039	0.038	-0.002	0.002
430.000	468.000	0.993	0.993	0.993	0.010	0.020	0.027	-0.019	0.022	-0.038	0.042	-0.002	0.001
468.000	507.000	0.993	0.992	0.993	0.010	0.020	0.027	-0.021	0.022	-0.041	0.041	-0.001	0.001
507.000	548.000	0.992	0.991	0.992	0.010	0.020	0.027	-0.024	0.024	-0.039	0.044	-0.001	0.002
548.000	592.000	0.991	0.991	0.991	0.010	0.020	0.027	-0.029	0.025	-0.044	0.040	-0.004	0.003
592.000	638.000	0.990	0.990	0.991	0.010	0.020	0.027	-0.027	0.027	-0.043	0.043	-0.004	0.003
638.000	686.000	0.989	0.989	0.990	0.010	0.020	0.027	-0.028	0.029	-0.044	0.044	-0.002	0.002
686.000	737.000	0.989	0.988	0.989	0.010	0.020	0.027	-0.027	0.031	-0.040	0.046	-0.004	0.004
737.000	790.000	0.988	0.987	0.989	0.010	0.020	0.027	-0.036	0.031	-0.049	0.044	-0.003	0.002
790.000	846.000	0.987	0.987	0.988	0.010	0.020	0.027	-0.031	0.033	-0.040	0.048	-0.003	0.005
846.000	905.000	0.987	0.986	0.987	0.010	0.020	0.027	-0.033	0.042	-0.044	0.053	-0.004	0.004
905.000	967.000	0.986	0.985	0.987	0.010	0.020	0.027	-0.038	0.034	-0.047	0.045	-0.003	0.003
967.000	1032.000	0.985	0.984	0.986	0.010	0.020	0.027	-0.040	0.042	-0.049	0.052	-0.004	0.004
1032.000	1101.000	0.985	0.984	0.986	0.010	0.020	0.027	-0.042	0.042	-0.049	0.050	-0.005	0.005
1101.000	1172.000	0.984	0.983	0.985	0.010	0.020	0.027	-0.035	0.041	-0.043	0.049	-0.004	0.005
1172.000	1248.000	0.983	0.982	0.984	0.010	0.020	0.027	-0.046	0.048	-0.055	0.057	-0.004	0.005
1248.000	1327.000	0.983	0.982	0.984	0.010	0.020	0.027	-0.046	0.044	-0.052	0.052	-0.006	0.004
1327.000	1410.000	0.982	0.981	0.983	0.010	0.020	0.027	-0.047	0.047	-0.054	0.053	-0.005	0.005
1410.000	1497.000	0.982	0.980	0.983	0.010	0.020	0.027	-0.051	0.051	-0.055	0.058	-0.004	0.005
1497.000	1588.000	0.981	0.980	0.982	0.010	0.020	0.027	-0.046	0.056	-0.050	0.059	-0.003	0.005
1588.000	1684.000	0.980	0.979	0.982	0.010	0.020	0.027	-0.057	0.057	-0.061	0.063	-0.007	0.006
1684.000	1784.000	0.980	0.978	0.981	0.010	0.020	0.027	-0.055	0.057	-0.060	0.062	-0.005	0.006
1784.000	1890.000	0.979	0.978	0.981	0.010	0.020	0.027	-0.011	0.012	-0.012	0.012	-0.001	0.001
1890.000	2000.000	0.979	0.977	0.980	0.010	0.020	0.027	-0.001	0.002	-0.001	0.002	0.000	0.000

pt low	pt high	AbsoluteStat	AbsoluteScale	SinglePionECAL	Fragmentation	RelativeJERHF	Re
114.000	133.000	-0.003	0.003	0.000	0.000	0.000	0.000
133.000	153.000	-0.002	0.002	0.000	0.000	0.000	0.000
153.000	174.000	-0.003	0.004	0.000	0.000	0.000	0.000
174.000	196.000	-0.003	0.003	0.000	0.000	0.000	0.000
196.000	220.000	-0.003	0.002	0.000	0.000	0.000	0.000
220.000	245.000	-0.003	0.004	0.000	0.000	0.000	0.000
245.000	272.000	-0.003	0.004	0.000	0.000	0.000	0.000
272.000	300.000	-0.004	0.003	0.000	0.000	0.000	0.000
300.000	330.000	-0.004	0.003	0.000	0.000	0.000	0.000
330.000	362.000	-0.003	0.003	0.000	0.000	0.000	0.000
362.000	395.000	-0.002	0.004	0.000	0.000	0.000	0.000
395.000	430.000	-0.005	0.004	0.000	0.000	0.000	0.000
430.000	468.000	-0.004	0.003	0.000	0.000	0.000	0.000
468.000	507.000	-0.003	0.004	0.000	0.000	0.000	0.000
507.000	548.000	-0.003	0.003	0.000	0.000	0.000	0.000
548.000	592.000	-0.006	0.004	0.000	0.000	0.000	0.000
592.000	638.000	-0.004	0.004	0.000	0.000	0.000	0.000
638.000	686.000	-0.003	0.002	0.000	0.000	0.000	0.000
686.000	737.000	-0.005	0.005	0.000	0.000	0.000	0.000
737.000	790.000	-0.004	0.002	0.000	0.000	0.000	0.000
790.000	846.000	-0.003	0.005	0.000	0.000	0.000	0.000
846.000	905.000	-0.005	0.005	0.000	0.000	0.000	0.000
905.000	967.000	-0.005	0.004	0.000	0.000	0.000	0.000
967.000	1032.000	-0.005	0.005	0.000	0.000	0.000	0.000
1032.000	1101.000	-0.005	0.005	0.000	0.000	0.000	0.00
1101.000	1172.000	-0.004	0.005	0.000	0.000	0.000	0.00
1172.000	1248.000	-0.004	0.005	0.000	0.000	0.000	0.00
1248.000	1327.000	-0.006	0.004	0.000	0.000	0.000	0.00
1327.000	1410.000	-0.005	0.005	0.000	0.000	0.000	0.00
1410.000	1497.000	-0.005	0.005	0.000	0.000	0.000	0.00
1497.000	1588.000	-0.003	0.006	0.000	0.000	0.000	0.00
1588.000	1684.000	-0.008	0.006	0.000	0.000	0.000	0.00
1684.000	1784.000	-0.005	0.005	0.000	0.000	0.000	0.00
1784.000	1890.000	-0.001	0.001	0.000	0.000	0.000	0.00
1890.000	2000.000	0.000	0.000	0.000	0.000	0.000	0.000

Storing infos on HepData: Inclusive jets 8 TeV CMS

- resources



- xfitter tables

```
! CMS 8 TeV jets, 19.71 fb-1
! Data correspond to CMS Paper SMP-12-012
!
! Separate data and theory files for each Y bin
! Central values and covariance matrices for each
! uncertainty source (including statistical
! correlations) are provided separately.
!
! Provided by Sanmay Ganguly on 30.03.15
! Asymm uncertainties are given by Sanmay on 22.04.15
! RelativeStatFSR is given by Sanmay on 02.06.15
! New NP corrections and uncertainties are given by Salim on 06.06.15
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Storing and accessing infos

- Define a common format
  - and provide tools to convert back to already existing formats
  - to be used also in Rivet/Yoda

- Discuss the needs and requirements from experiment, theory, fitters, Rivet and of course from HepData
  - is help in HepData needed ?

WG 2: Agenda for today

LHC-EW WG: Jets and EW bosons

Thursday 12 Jul 2018, 14:00 → 16:10 Europe/Zurich

40-5-A01 (CERN)

Videoconference Rooms: LHC-EW_WG__Jets_and_EW_bosons — Join — 40-5-A01

14:00 → 14:10 **Intro** — 10m

14:10 → 15:10 **Correlated Uncertainties**

- **14:10** **Correlated uncertainties: xFitter** — 20m
  - **Speaker**: Oleksandr Zenaiev (DESY)
  - Zenaiev-xfitter.pdf
- **14:40** **HEPData and correlated uncertainties** — 20m
  - **Speaker**: Graeme Watt
  - watt_hepdata_jul20...

Appendix