μ	100.0 4.6 1.6	8.2	12.5 -4	.2 -1.1	7.5	-3.2 1.	.7 -4.3	2.2	0.5	-1.3 -	0.1 -8.9	3.8	-9.9	2.2	-1.9	1.0 6.3	-3.7	0.9	7.8	-8.8	-4.4 -1	0.7 1.9	3.4	3.4 3	.4 3.4	3.4	-1.3	3.4	0.6 3.9	0.9	-3.5	-4.5 1.9	-14.4	1.1 -0.3
ABCD electron	4.6 100.0 -55.8	-1.1	-1.9 2	9 -9.7	5.3	0.1 2.	.8 13.3	-1.1	-1.4	4.5 0	.2 -11.0	6 -1.2	-7.1	-14.4	15.3 1	11.1 1.4	1.1	3.8	3.3	-3.2	-1.0 0	2 -0.3	-0.3	-0.3 -0	0.3 -0.3	-0.3	-0.4	-0.3	0.5 11.	4.0	-8.1	-6.5 -6.	7 -1.2	-20.0 0.3
ABCD muon	1.6 -55.8 100.0	-0.4	-0.7 1	0 -3.3	1.8	0.0 1.	.0 4.6	-0.4	-0.5	1.6	.1 -4.0	-0.4	-2.5	-5.0	5.3	3.8 0.5	0.4	1.3	1.1	-1.1	-0.3 0	.1 -0.1	-0.1	-0.1 -0	0.1 -0.1	-0.1	-0.1	-0.1 (0.2 4.0	1.4	-2.8	-2.2 -2	3 -0.4	-6.9 0.1
FFNP_SS_CR	8.2 -1.1 -0.4	100.0	-26.2 2	2 0.6	-0.6	0.3 -1	.9 1.2	-1.1	1.1	0.8 3	.0 -2.1	7.9	4.7	-1.2	-2.8	0.1 0.6	-0.4	-0.5	2.4	-2.7	0.0 0	3 6.1	6.4	6.4 6	.4 6.4	6.4	7.9	6.4 1	0.1 -6.	-1.8	-0.2	6.3 -10	4 -0.6	-0.9 3.7
FFNP_OS_CR	12.5 -1.9 -0.7	-26.2	100.0 4	4 -0.9	-1.7	0.2 -2	.8 1.5	1.8	2.9	2.1 4	.0 -4.4	8.6	13.1	-2.3	-3.5	0.3 0.4	-0.2	-0.6	3.0	-3.3	-0.2 0	.9 5.7	6.3	6.3 6	.3 6.3	6.3	5.3	6.3 1	0.9 -11.	1 -2.6	-1.6	6.0 -9.	4 -1.4	-1.5 6.2
JER_1	-4.2 2.9 1.0	2.2	4.4 10	-9.2	12.9	-0.1 5.	.9 1.1	-0.8	0.2	0.2 -	1.2 3.2	-0.9	4.9	3.5	-0.5	1.6 1.5	-0.1	3.0	-2.1	2.3	-3.1 -0	.3 -0.1	-0.3	-0.3 -0	0.3 -0.3	-0.3	-0.6	-0.3	1.4 -1.	3.4	2.6	-3.4 -1.	4 -2.1	2.8 -1.1
JER_2	-1.1 -9.7 -3.3	0.6	-0.9 -9	.2 100.0	8.3	-2.7 0.	.0 0.3	4.4	0.2	-0.3 -1	5.2 0.7	1.4	5.8	0.5	4.9	3.0 3.4	-1.9	2.8	-0.1	-0.1	-1.3 0	4 -1.3	-1.1	-1.1 -1	.1 -1.1	-1.1	-1.3	-1.1	4.2 2.7	4.0	2.0	-0.3 -2.	4 -3.8	-0.4 1.8
JER_4	7.5 5.3 1.8	-0.6	-1.7 12	.9 8.3	100.0	0.2 -2	.7 2.8	0.5	0.2	-0.3 4	.3 -2.7	1.7	-0.9	-2.0	-2.7	3.6 -1.:	3 -0.2	-3.1	0.5	-0.4	2.2 -0	.0 -1.8	-1.1	-1.1 -1	.1 -1.1	-1.1	-3.1	-1.1 -	1.8 2.8	-3.6	-0.1	-0.6 2.7	2.3	0.6 4.1
JES_Modelling1	-3.2 0.1 0.0	0.3	0.2 -0	.1 -2.7	0.2	00.0 -13	3.2 -4.3	19.2	-3.8	-9.6 -6	i.6 -0.2	2.0	-4.6	-0.5	-0.2	0.2 2.3	-2.4	0.2	0.4	-0.8	2.0 -0	1.1 -1.6	-1.4	-1.4 -1	.4 -1.4	-1.4	-2.7	-1.4 (0.5 -1.	-1.6	0.5	10.8 -3.	7 3.5	1.5 1.2
JET_EtaInt_Modelling	1.7 2.8 1.0	-1.9	-2.8 5	9 0.0	-2.7	13.2 10	0.0 2.5	20.8	-3.4	-9.8	.8 0.5	1.3	-6.1	1.1	3.7	0.4 0.9	-1.5	-3.9	0.5	-1.0	3.5 0	.0 -1.1	-0.8	-0.8 -0	0.8 -0.8	-0.8	-1.5	-0.8	3.1 -3.	-6.6	0.4	11.3 0.0	3.3	2.6 1.5
JET_Flavor_Composition	-4.3 13.3 4.6	1.2	1.5 1	1 0.3	2.8	-4.3 2.	.5 100.0	0.1	5.7	-1.5 -2	8.2 3.4	-7.4	-2.6	9.4	-12.4	4.1 1.0	-0.9	-2.4	9.5	-10.8	2.1	.7 0.4	-0.0	-0.0 -0	0.0 -0.0	-0.0	0.9	-0.0	1.4 -15.	8 -9.6	-17.5	-2.0 -26	1 17.6	2.9 -3.1
JET_Flavor_Response	2.2 -1.1 -0.4	-1.1	1.8 -0	.8 4.4	0.5	19.2 20	0.8 0.1	100.0	3.9	13.2 2	2 0.4	1.5	5.5	-1.1	-1.4	0.1 -2.	3 3.1	1.5	-1.4	2.0	-5.6 0	4 5.0	4.3	4.3 4	.3 4.3	4.3	7.4	4.3	3.9 1.6	4.9	-0.0	20.2 2.5	-5.8	-3.7 -3.5
JET_Pileup_OffsetMu	0.5 -1.4 -0.5	1.1	2.9 0	2 0.2	0.2	-3.8 -3	4 5.7	3.9	100.0	-5.1 -7	.5 -0.8	3.0	-7.0	-1.6	5.8	1.7 1.6	-0.4	-0.2	0.0	-0.2	-1.7 -0	.2 0.9	0.8	0.7 0	.8 0.7	0.7	0.6	0.7	3.3 -10.	0 0.6	-0.7	-2.2 -1.3	8 -6.5	0.5 -0.8
JET_Pileup_OffsetNPV	-1.3 4.5 1.6	0.8	2.1 0	2 -0.3	-0.3	-9.6 -9	.8 -1.5	13.2	-5.1 1	100.0 -3	l.8 -1.3	3.5	-5.7	-2.7	0.9	1.1 2.1	-1.7	-2.3	-1.2	1.1	-0.5 0	.1 -0.0	0.1	0.1 0	.1 0.1	0.1	-0.6	0.1	1.2 -7.0	-3.2	0.3	18.4 -3.	6 -0.9	3.7 0.4
JET_Pileup_RhoTopology	-0.1 0.2 0.1	3.0	4.0	2 -15.2	4.3	-5.6 -1	.8 -28 2	22	-7.5	-3.8 10	0.0 9.8	6.3	6.8	14.0	33.5	14.8 14	1 -8.6	41	3.3	-4.2	-0.9 -0	2 -2.0	-12	1.2	.2 -12	-12	-4.1	-1.2	6.7 -28	3 0.1	10.0	10.6	6 8.8	-7.7 3.4
LumiUncertainty	-8.9 -11.6 -4.0	-21	-4.4 3	2 0.7	-2.7	-0.2 0	.5 3.4	0.4	-0.8	-1.3 9	.8 100	5.3	-5.4	-19.6	-7.2	2.8 7	-5.7	-2.9	-0.7	1.1	-5.4 -0	1.1 -3.3	-2.8	-2.8 -3	.8 -28	-2.8	-4.6	-2.8	0.9 11	-3.9	-1.5	10.4 10	4 -10.5	-2.0 32
PRW	3.8 -12 -0.4	7.9	8.6	.9 14	1.7	2.0 1	3 -74	1.5	3.0	3.5	.3 5.3	100.6	1.7	12.2	-1.8	0.3 -14	6 11.8	-1.1	0.9	-1.3	-1.0 -0	.3 -4.5	-3.9	-3.9 -3	1.9 -3.9	-3.9	-8.7	-3.9	5.0 3.4	-1.0	-8.7	17.1 5.0	0 -0.8	-1.9 27
TES_DETECTOR	-9.9 -71 -25	47	13.1 4	9 58	-0.9	-4.6	1 -26	5.5	-7.0	-5.7	.8 -5.4	17	100.0	-74	9.5	3.3	1 07	-34	-0.8	0.6	-0.4	.3 53	48	4.8 4	.8 48	48	5.6	4.8	4.4 33	-5.5	-7.0	2.9 16	-6.9	-4.3 -4.4
TAU_PLIV	22 -144 -50	-12	-2.3 3	5 0.5	-2.0	-0.5	1 94	.11	-1.6	-27 1	.0 -194	6 12.2	-7.4	100.0	-7.5	3.6	-7.7	.21	-4.3	5.3	-6.3	4 -0.7	-0.5	-0.5	0.5 -0.5	-0.5	-0.9	-0.5	2.0 14	7 -3.8	0.7	12.6	-8.3	-2.3 12
btag_B_0	-1.9 153 53	-28	-3.5	5 49	-2.7	-0.2 3	7 -12.4	-14	5.8	0.9	3.5 -7.3	-1.8	9.5	-7.5	100.0	12.3) 11	2.0	0.4	0.1	-0.9	.2 -11	-0.8	0.8	1.8 -0.8	-0.8	-1.7	-0.8	3.0 17	3 37	-0.3	22.2 3.0	3.5	4.3 2.1
btag_B_0	1.0 111 38	-0.1	-0.3 1	6 30	-3,6	-0.2	4 -41	0.1	1.7	1.1	.8 -2.9	0.3	3.3	-3.6	-12.3	00.0	0.2	-0.6	-0.7	1.0	-0.0	.0 -0.7	-0.4	0.4	1.4 -0.4	-0.4	-1.3	-0.4	0.8 53	1.3	0.3	-5.5	0.5	4.0 12
btag_B_3	63 14 05	0.6	0.5	5 34	-1.3	23 0	9 10	-26	1.5	21 1	11 77	-14 6	-0.1	9.9	-4.0	16 100	11.1	16	1.7	-20	26 -0	11 -15	-11	41 4	11 .11		-27	.11 -	20 -21	44	-6.3	-6.4 -10	7 17	-0.3 1.2
btag_B_37	27 11 04	0.0	0.2	1 10	0.3	24 1	5 00	2.0	0.4	17 1		11.0	0.7	7.7	11	0.2 44	100.0		.,	1.7	0.0	1 12	0.0	00 0	0 00	0.0	20	0.0	12 40	2.5	6.7	E4 04	4.7	0.0 1.2
btag_C_0	0.0 2.0 1.2	-0.4	0.2	0 20	-0.2	02 2	.5 -0.5	1.5	0.2	22	.0 -0.7	11.0	3.4	-7.7	20	0.2 11.		100.0	0.5	0.7	1.3 0	0 07	0.6	0.5 0		0.5	1.3	0.9	1.0 4.0	-3.5	0.7	0.0	20	24 05
btag_C_5	79 22 44	-0.5	20 6	0 2.0	0.5	04 0	5 05	1.5	0.0	4.0 3	2 0.7	-1.1	0.9	-2.1	0.4	0.0	-0.5	0.5	100.0	-0.7	20 0	2 0.0	0.0	0.0 0	.0 0.0	0.0	1.3	0.0	25 91	0.0	4.0	2.0 10	2.3	0.1 0.3
btag_C_8	20 22 44	2.4	3.3 3	2 01	0.5	0.0	0 10.0	20	0.0	12		1.2	0.0	5.3	0.4	10 2	17	0.5		100.0	2.0	2 0.7	0.4	0.5	5 05	0.5	4.7	0.5	20 00	0.0	1.0	4.4 41	2.2	0.0 0.1
fakeSF_1p_pt2_b_fake	-44 -10 -02	0.0	-0.2	1 -12	22	20 2	5 21	-5.6	-17	-0.5	1.1	-1.3	.0.4	-6.3	-0.9	00 24	-0.0	-13	2.0	.21	100.0	0 -04	-0.5	0.5	0.5	-0.5	-0.5	-0.5	0.4	0.4	-1.5	-61 -5	8 -10 B	0.7
	-4.4 -1.0 -0.3	0.0	0.2	3 04	-0.2	-0.1	0 07	-0.0	-1.7	0.1	0.4	-1.0	-0.4	0.3	-0.3	0.0 2.0	-0.6	-1:3	0.3	-2.1	-0.0	0.0	0.5	0.0	1 0.5	-0.5	-0.3	0.1	04 00	0.4	-0.1	-0.1 -0.1	-10.6	0.2
ttH theory_uncer tauTrigger_STATDATA161718	10 02 0.1	0.3	5.5	0.4	-0.0	1.0	0.7	5.4	0.0	0.0	0.1	-0.3	1.3	0.4	0.2	0.7	0.1	0.0	0.2	0.3	0.0	-0.0	5.0	5.1	0.1	0.1	12.0	5.0	4.3	0.0	-0.1	0.2 0.8	-0.4	0.1
tauIngger_STATDATA161/18	34 .03 .01	6.1	63 0	3	1.0	1.0 -1	8 00	5.0	0.9	0.1	3.3	4.5	5.3	-0.7	-1.1	0.7	1.2	0.7	-0.6	0.7	-0.4	1 50	100.0	-0.0 <	-0.6	-3.6	-10.6	-4.5	4.3 C.	1.1	-1.7	-0.4 4.5	-1.0	-0.1 7.3
35.2	3.4 .0.3 -0.1	0.4	0.3	~ -1.1	-1.1	1.4	-0.0	4.3	0.8	0.1	2 -2.8	-3.9	4.6	-0.5	0.0	0.4 -1.	0.9	0.6	-0.4	0.5	0.5	-0.6	100.0	100.0	-4.5	-4.0	10.0	4.5	4.2 -0.1	0.0	1.0	0.4	-0.9	0.1 5.7
tauTrigger_STATMC161718 tauTrigger_STATMC2018	3.4 -0.3 -0.1	6.4	0.3 -0	. 1.1	4.1	-1.4 -0	.6 -0.0	4.3	0.7	0.1	2 -2.8	-3.9	4.8	-0.5	- 8.0-	0.4 -1.	0.9	0.6	0.4	0.5	-0.5 0	-5.6	-4.5	4.5	-4.5	-4.5	10.6	4.5	4.2 -0.I	0.8	-1.6	-0.4 4.5	-0.9	0.1 5.7
	3.4 -0.3 -0.1	6.4	0.3 -0	.o -1.1	4.1	-1.4 -0	.6 -0.0	4.3	0.8	0.1	.2 -2.8	-3.9	4.8	-U.b	-0.6	0.4 -1.	0.9	0.6	-0.4	0.5	-0.5 0	-5.6	-4.5	-4.5	-4.5	-4.5	10.6	-4.5	+.∠ -0.i	0.8	-1.6	-u.a 4.5	-0.9	-0.1 5.7
tauTrigger_SYST161718	3.4 -0.3 -0.1	6.4	6.3 -0	.3 -1.1	- 4.1	-1.4 -0	.6 -0.0	4.3	0.7	0.1	.2 -2.8	-3.9	4.8	-0.5	-0.8	0.4 -1.	0.9	0.6	-0.4	0.5	-0.5 0	.1 -5.6	-4.5	-4.5 -4	100.0	-4.5	-10.6	-4.5 -	4.2 -0.1	0.8	-1.6	-0.4 4.6	-0.9	-0.1 5.7
tauTrigger_SYST2018	3.4 -0.3 -0.1	6.4	6.3 -0	.3 -1.1	-1.1	-1.4 -0	-0.0	4.3	0.7	0.1	.2 -2.8	-3.9	4.8	-0.5	-0.8	0.4 -1.	0.9	0.6	-0.4	0.5	-0.5 0	-5.6	-4.5	4.5	.5 -4.5	100.0	-10.6	-4.5 -	4.2 -0.1	0.8	-1.6	-0.4 4.6	-0.9	-0.1 5.7
tauTrigger_SYSTMU161718 tauTrigger_SYSTMU2018	-1.3 -0.4 -0.1	7.9	5.3 -0	.0 -1.3	-3.1	-2.7 -1	.5 0.9	7.4	0.6	-0.6	i.1 -4.6	-8.7	5.6	-0.9	-1.7	1.3 -2.	2.0	1.3	-1.4	1.7	-0.5 -0	.2 -13.0	-10.6	-10.6 -1	u.6 -10.6	-10.6	100.0	10.6	6.2 -0.	2.3	-2.1	-0.1 7.5	-1.0	-0.0 11.2
tauTrigger_SYSTMU2018 only τ _{sub} real modelling	3.4 -0.3 -0.1	6.4	0.3 -0	· -1.1	- 4.1	-1.4 -0	-0.0	4.3	0.7	4.0	.2 -2.8	-3.9	4.8	-0.5	-0.6	0.4 -1.	0.9	0.6	-0.4	0.5	-0.5 0	-5.6	-4.5	4.0	-4.5	-4.5	-10.6		4.2 -0.1	0.8	-1.6	-u.a 4.5	-0.9	0.1 5.7
	30 410	10.1	10.9 1	4.2	-1.8	0.5 3.	1.4	3.9	-3.3	7.0	0.9	-5.0	-4.4	2.0	3.0	0.6 -2.	1.3	1.9	-2.5	2.6	0.4 -0	4.3	-4.2	-4.2 -4	-4.2	-4.2	0.2	-4.2	2.0	4.2	-1.7	22.5 26.	s -1.9	0.6
t FSR	3.9 11.6 4.0	-6.4	-11.1 -1	4 40	2.6	-1.1 -3	-16.8	1.6	-10.0	-7.0 -2	0.3 11.0	3.4	3.3	11.7	17.6	1.2	4.9	-4.5	-6.8	6.9	9.3 0	0.8	-0.8	-0.6 -0	0.8	-0.8	2.2	-0.8 -	2.0 100	-3.9	0.4	25.2	-7.7	0.7 2.4
t ISR	0.9 4.0 1.4	-1.8	-2.0 3	4.0	-3.6	-1.0 -6	-9.6	4.9	0.6	-3.2	-3.9	-1.0	-5.5	-3.8	3.7	1.3 4.4	-3.5	-7.7	0.6	-0.4	0.4 0	0 1.1	0.8	0.6 0	.0 0.8	0.8	2.3	0.0	4.2 -3.5	100.0	-0.5	20.2 -10	10.0	-1.0 -1.3
t PDF	-3.5 -8.1 -2.8	-0.2	-1.0 2	4 05	-0.1	10.9	-1/.5	-0.0	-0.7	10.4	1.0 -1.5	-8.7	-7.0	0.7	-0.3	o.s -6.	5.7	-0.7	1.2	-1.6	-1.5 -(-1.7	-1.6	-1.6 -1	.0 -1.6	-1.6	-2.1	-1.6 -	1.7 0.4	-0.5	100.0	~4.0 -2.	-8.6	-1.6 0.4
h PS	-4.5 -8.5 -2.2 1.9 -6.7 -2.3	6.3	0.0 -3	0.3	-0.6	10.6 -11	2.0	20.2	-2.2	18.4 -1	u.o -10.	-17.1	2.9	-12.6	-22.2	0.5 -6.	5.4	0.0	2.0	-1.4	-0.1 -0	2 0.0	-0.4	-0.4 -0	.4 -0.4	-0.4	-0.1	-0.4	20 19	-25.2	-4.6	54.0	6.8	-2.0 -1.9
	1.9 -6.7 -2.3 -14.4 -1.2 -0.4	-10.4	-9.4 -1	.4 -2.4	2.7	-3.7 0.	.u -26.1	2.5	-1.8	-3.6	.6 10.4	5.0	1.8	6.7	3.0	3.8 -10.	9.8	2.1	-10.2	11.0	-5.8 0	. 4.5	4.5	4.5 4	.5 4.5	4.5	7.5	4.5 2	1.1	-10.0	-2.9	04.0 100		
It scale	-14.4 -1.2 -0.4	-0.6	-1.4 -2	.1 -3.8	2.5	3.5 3.	. 17.6	-5.8	-0.5	-0.9 8	.0 -10.5	-0.8	-6.9	-6.3	3.5	0.0 -1.	4.7	-2.9	2.3	-3.2	-10.6 -0	-1.0	-0.9	-0.9 -0	0.9	-0.9	-1.0	-0.9 -	1.9 - 7.	10.0	-0.6	0.6 7.5	100.0	3.3 1.7 100.0 0.1
wjet theory_uncer	1.1 -20.0 -6.9 -0.3 0.3 0.1	-0.9	-1.5 2	-0.4	0.6	1.5 2.	.6 2.9	-3.7	0.6	3.7	./ -2.0	-1.9	-4.3	-2.3	4.3	4.0 -0.3	0.4	3.4	0.1	0.0	0.7 0	∠ -0.1	-0.1	-0.1 -0	.1 -0.1	-0.1	0.0	-0.1	u.8 6.7	-1.0	-1.8	-2.6 -1.	3.3	0.1
ztt ckk	-0.3 0.3 0.1	3.7	6.2 -1	.1 1.8	4.1	12 1.	.b -3.1	-3.5	-0.8	0.4 3	.4 3.2	2.7	-4.4	1.2	2.1	1.2 1.3	-0.7	-0.5	-0.2	0.1	-0.2 -0	7.3	ь.7	5.7 5	./ : 5.7	5.7	11.2	5./	U.B 2.4	-1.3	0.4	-1.9 1.1	1.7	0.1 100.0
	μ electron 3D muon	SCR	JS_CR	JER 2	JER_4	elling1	sition	suox	setMu	VAN	tainty	PRW	TOR	TAU_PLIV	btag_B_0	btag_B_1 btag_B_3	btag_B_37	btag_C_0	btag_C_5	btag_C_8	fake	1718	12018	31718	4718	2018	31718	12018	delling	ISR	II PDF	It PS	it scale	/_uncer ztt ckk
	д ABCD electron ABCD muon	FFNP_SS_CR	FFNP_OS_CR	, 5	7	JES_Modelling1	JET_Flavor_Compos	JET_Flavor_Response	JET_Pileup_OffsetMu	JET_Pileup_OffsetNPV	LumiUncertainty		DETE	TAU	btag	btag btag	btag	btag	btag	btag	fakeSF_1p_pt2_b_fake	an areony_unicer	tauTrigger_STATDATA2018	tauTrigger_STATMC161718	tau Trigger_STATMC2016	tauTrigger_SYST2018	tauTrigger_SYSTMU161718	tauTrigger_SYSTMU2018	real mod	_		ž	all I	ē.
	¥	Œ	tt.			ES ES	Flavor	T_Flaw	ET_Pile	lnella T	Lum		TES								eSF_1r	STATE	er_STA	per_STA	gger_s rigger_{	uTrigge	er_SYS	gger_S	ag .					wjet the
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