1 Nominal correlations.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI
ALJ10	169.30 ± 6.37	-7.14	4.97	5.92	5.51	4.00	0	0	2.50	0	2.10	0	0	1.00	2.50	0.60	0.50	1.20	0.60	1.80	0.60	0.40	0.70
ALJ11	174.50 ± 2.41	30.51	34.62	12.58	23.56	0.60	0.40	0	1.60	0	0.70	0	0	0.40	1.00	0.60	0.10	0.30	0.60	0.10	0.50	0.10	0
AJT11	174.90 ± 4.46	-0.56	10.14	0.02	0.43	2.10	0	0	1.40	0	2.10	0	0	0.50	1.70	0.60	0.60	0.50	0.60	0	1.90	1.00	0
CLL10	175.50 ± 6.50	-1.79	4.77	0.55	1.38	4.60	0	0	0.90	0	2.10	3.30	0.30	0.40	0.90	0.50	0.50	0.60	1.40	0.10	0	0.30	1.00
CLJ10	173.10 ± 3.43	0.99	17.15	0.03	0.77	2.10	0	0	0.90	0	2.10	0	0	0	1.20	0.50	0.10	0.40	0.20	0.20	0.40	0.10	0.10
CLL11	173.30 ± 2.99	-5.26	22.49	0.54	4.06	1.20	0	0	1.10	0	2.00	0	0.20	0.10	0.80	0.50	0.40	0.70	0.60	0	0.40	0.40	0.20
CMJ11	172.60 ± 1.55	83.25	83.60	48.05	64.29	0.40	0.40	0	0.70	0	0.20	0	0	0	0.80	0.50	0.10	0.30	0.60	0.10	0	0.20	0.40
Correlations	—	—	-77.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BLUE mt	173.32 ± 1.42	100.00	100.00	67.68	100.00	0.49	0.35	0	0.72	0	0.07	0.06	0.02	0.04	0.69	0.52	0.05	0.21	0.47	0.01	0.16	0.17	0.26

Table 1: BLUE of the combination (χ^2/ndof= 2.46/6). For each input measurement i the following are listed: the central value weight CVW_i or λ_i, the intrinsic information weight IIW_i , the marginal information weight MIW_i, the relative importance RI_i. The intrinsic information weight $\mathrm{IIW}_{\mathrm{corr}}$ of correlations is also shown on a separate row.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

OffDiag & ErrSrc	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	OffDiag
ALJ11 / ALJ10	0	0	0	0.087	0	0.032	0	0	0.009	0.054	0.008	0.001	0.008	0.008	0.004	0	0	0	0.209
AJT11 / ALJ10	0	0	0	-0.001	0	-0.002	0	0	~ 0	-0.002	~ 0	~ 0	~ 0	~ 0	0	0	0	0	-0.006
AJT11 / ALJ11	0	0	0	0.004	0	0.002	0	0	~ 0	0.003	0.001	~ 0	~ 0	0.001	0	0	0	0	0.011
CLL10 / ALJ10	0	0	0	-0.001	0	0	0	0	~ 0	-0.001	~ 0	~ 0	0	0	~ 0	0	0	-0.001	-0.005
CLL10 / ALJ11	0	0	0	0.004	0	0	0	0	~ 0	0.002	0.002	~ 0	0	0	~ 0	0	0	0	0.009
CLL10 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / ALJ10	0	0	0	0.001	0	0	0	0	0	0.001	~ 0	~ 0	0	0	~ 0	0	0	~ 0	0.002
CLJ10 / ALJ11	0	0	0	-0.002	0	0	0	0	0	-0.002	-0.001	~ 0	0	0	~ 0	0	0	0	-0.005
CLJ10 / AJT11	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / CLL10	0	0	0	~ 0	0	0.001	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0.001
CLL11 / ALJ10	0	0	0	-0.005	0	0	0	0	~ 0	-0.004	-0.001	-0.001	0	0	0	0	0	-0.001	-0.011
CLL11 / ALJ11	0	0	0	0.014	0	0	0	0	~ 0	0.006	0.005	0.001	0	0	0	0	0	0	0.026
CLL11 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	-0.001
CLL11 / CLL10	0	0	0	-0.001	0	-0.004	0	~ 0	~ 0	-0.001	~ 0	~ 0	~ 0	-0.001	0	0	0	~ 0	-0.007
CLL11 / CLJ10	0	0	0	0.001	0	0.002	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	0.004
CMJ11 / ALJ10	0	0	0	0.052	0	0	0	0	0	0.059	0.018	0.003	0	0	0.011	0	0	0.017	0.158
CMJ11 / ALJ11	0	0	0	-0.141	0	0	0	0	0	-0.101	-0.076	-0.003	0	0	-0.003	0	0	0	-0.323
CMJ11 / AJT11	0	0	0	0.002	0	0	0	0	0	0.003	0.001	~ 0	0	0	0	0	0	0	0.007
CMJ11 / CLL10	0	0	0	0.009	0	0.006	0	0	0	0.011	0.004	0.001	0.003	0.012	~ 0	0	0	0.006	0.052
CMJ11 / CLJ10	0	0	0	-0.005	0	-0.003	0	0	0	-0.008	-0.002	~ 0	-0.001	-0.001	~ 0	0	0	~ 0	-0.021
CMJ11 / CLL11	0	0	0	0.033	0	0.017	0	0	0	0.028	0.011	0.002	0.009	0.016	0	0	0	0.003	0.119
ErrSrc	0	0	0	0.049	0	0.052	0	~ 0	0.009	0.050	-0.032	0.004	0.018	0.035	0.012	0	0	0.024	GlobFact 0.220

Table 2: Normalised Fisher information derivatives 1/I*dI/dX for the combination under consideration. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to its "current" value in the combination under consideration, and all normalized by the information I for the "current" values of correlations. They are computed for the "current" values of correlations (in this case: nominal correlations). Color boxes indicate normalised derivatives greater than 0.05 (yellow), 0.10 (orange) and 0.15 (red). The last column and last row list information derivatives when the same rescaling factor is used for a given off-diagonal element or error source, which are equal to the sums of individual derivatives in each row and column, respectively.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	40.57	9.68	14.28	3.88	3.41	3.06	2.69
ALJ11	9.68	5.82	6.54	1.61	1.65	1.64	1.28
AJT11	14.28	6.54	19.86	2.10	2.01	2.02	1.53
CLL10	3.88	1.61	2.10	42.25	7.24	7.92	3.50
CLJ10	3.41	1.65	2.01	7.24	11.75	6.86	2.57
CLL11	3.06	1.64	2.02	7.92	6.86	8.96	2.75
CMJ11	2.69	1.28	1.53	3.50	2.57	2.75	2.41

Table 3: Full input covariance between measurements (summed over error sources).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	16.00	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	4.41	0	0	0	0
CLL10	0	0	0	21.16	0	0	0
CLJ10	0	0	0	0	4.41	0	0
CLL11	0	0	0	0	0	1.44	0
CMJ11	0	0	0	0	0	0	0.16

Table 4: Partial input covariance between measurements. Error source #0: Stat.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0.16	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0.16

Table 5: Partial input covariance between measurements. Error source #1: iJES.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 6: Partial input covariance between measurements. Error source #2: aJES.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	4.00	3.50	1.12	1.12	1.38	0.88
ALJ11	4.00	2.56	2.24	0.72	0.72	0.88	0.56
AJT11	3.50	2.24	1.96	0.63	0.63	0.77	0.49
CLL10	1.12	0.72	0.63	0.81	0.81	0.99	0.63
CLJ10	1.12	0.72	0.63	0.81	0.81	0.99	0.63
CLL11	1.38	0.88	0.77	0.99	0.99	1.21	0.77
CMJ11	0.88	0.56	0.49	0.63	0.63	0.77	0.49

Table 7: Partial input covariance between measurements. Error source #3: bJES.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 8: Partial input covariance between measurements. Error source #4: cJES.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	4.41	1.47	4.41	0	0	0	0
ALJ11	1.47	0.49	1.47	0	0	0	0
AJT11	4.41	1.47	4.41	0	0	0	0
CLL10	0	0	0	4.41	4.41	4.20	0.42
CLJ10	0	0	0	4.41	4.41	4.20	0.42
CLL11	0	0	0	4.20	4.20	4.00	0.40
CMJ11	0	0	0	0.42	0.42	0.40	0.04

Table 9: Partial input covariance between measurements. Error source #5: dJES.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	10.89	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 10: Partial input covariance between measurements. Error source #6: rJES.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0.09	0	0.06	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0.06	0	0.04	0
CMJ11	0	0	0	0	0	0	0

Table 11: Partial input covariance between measurements. Error source #7: Lept.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.00	0.40	0.50	0.20	0	0.05	0
ALJ11	0.40	0.16	0.20	0.08	0	0.02	0
AJT11	0.50	0.20	0.25	0.10	0	0.03	0
CLL10	0.20	0.08	0.10	0.16	0	0.04	0
CLJ10	0	0	0	0	0	0	0
CLL11	0.05	0.02	0.03	0.04	0	0.01	0
CMJ11	0	0	0	0	0	0	0

Table 12: Partial input covariance between measurements. Error source #8: MC.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	2.50	4.25	1.12	1.50	1.00	1.00
ALJ11	2.50	1.00	1.70	0.45	0.60	0.40	0.40
AJT11	4.25	1.70	2.89	0.77	1.02	0.68	0.68
CLL10	1.12	0.45	0.77	0.81	1.08	0.72	0.72
CLJ10	1.50	0.60	1.02	1.08	1.44	0.96	0.96
CLL11	1.00	0.40	0.68	0.72	0.96	0.64	0.64
CMJ11	1.00	0.40	0.68	0.72	0.96	0.64	0.64

Table 13: Partial input covariance between measurements. Error source #9: Rad.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.36	0.36	0.30	0.30	0.30	0.30
ALJ11	0.36	0.36	0.36	0.30	0.30	0.30	0.30
AJT11	0.36	0.36	0.36	0.30	0.30	0.30	0.30
CLL10	0.30	0.30	0.30	0.25	0.25	0.25	0.25
CLJ10	0.30	0.30	0.30	0.25	0.25	0.25	0.25
CLL11	0.30	0.30	0.30	0.25	0.25	0.25	0.25
CMJ11	0.30	0.30	0.30	0.25	0.25	0.25	0.25

Table 14: Partial input covariance between measurements. Error source #10: CR.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.25	0.05	0.30	0.25	0.05	0.20	0.05
ALJ11	0.05	0.01	0.06	0.05	0.01	0.04	0.01
AJT11	0.30	0.06	0.36	0.30	0.06	0.24	0.06
CLL10	0.25	0.05	0.30	0.25	0.05	0.20	0.05
CLJ10	0.05	0.01	0.06	0.05	0.01	0.04	0.01
CLL11	0.20	0.04	0.24	0.20	0.04	0.16	0.04
CMJ11	0.05	0.01	0.06	0.05	0.01	0.04	0.01

Table 15: Partial input covariance between measurements. Error source #11: PDF.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.44	0.36	0.60	0	0	0	0
ALJ11	0.36	0.09	0.15	0	0	0	0
AJT11	0.60	0.15	0.25	0	0	0	0
CLL10	0	0	0	0.36	0.24	0.42	0.18
CLJ10	0	0	0	0.24	0.16	0.28	0.12
CLL11	0	0	0	0.42	0.28	0.49	0.21
CMJ11	0	0	0	0.18	0.12	0.21	0.09

Table 16: Partial input covariance between measurements. Error source #12: DTMO.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.36	0.36	0	0	0	0
ALJ11	0.36	0.36	0.36	0	0	0	0
AJT11	0.36	0.36	0.36	0	0	0	0
CLL10	0	0	0	1.96	0.28	0.84	0.84
CLJ10	0	0	0	0.28	0.04	0.12	0.12
CLL11	0	0	0	0.84	0.12	0.36	0.36
CMJ11	0	0	0	0.84	0.12	0.36	0.36

Table 17: Partial input covariance between measurements. Error source #13: UE.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	3.24	0.18	0	0.18	0.36	0	0.18
ALJ11	0.18	0.01	0	0.01	0.02	0	0.01
AJT11	0	0	0	0	0	0	0
CLL10	0.18	0.01	0	0.01	0.02	0	0.01
CLJ10	0.36	0.02	0	0.02	0.04	0	0.02
CLL11	0	0	0	0	0	0	0
CMJ11	0.18	0.01	0	0.01	0.02	0	0.01

Table 18: Partial input covariance between measurements. Error source #14: BGMC.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.25	0	0	0	0	0
AJT11	0	0	3.61	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0.16	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0

Table 19: Partial input covariance between measurements. Error source #15: BGDT.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.16	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	1.00	0	0	0	0
CLL10	0	0	0	0.09	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0.04

Table 20: Partial input covariance between measurements. Error source #16: Meth.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.49	0	0	0.70	0.07	0.14	0.28
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0.70	0	0	1.00	0.10	0.20	0.40
CLJ10	0.07	0	0	0.10	0.01	0.02	0.04
CLL11	0.14	0	0	0.20	0.02	0.04	0.08
CMJ11	0.28	0	0	0.40	0.04	0.08	0.16

Table 21: Partial input covariance between measurements. Error source #17: MHI.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

2 Modified correlations.

2.1 Summary of results.

Combination	BLUE	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	χ^2/ndof
Nominal correlations	173.32 ± 1.42	0.49	0.35	0	0.72	0	0.07	0.06	0.02	0.04	0.69	0.52	0.05	0.21	0.47	0.01	0.16	0.17	0.26	2.46/6
Minimize by global factor	173.27 ± 1.43	0.42	0.33	0	0.74	0	0.18	0.05	0.01	0.07	0.71	0.51	0.07	0.23	0.47	0.05	0.14	0.16	0.27	2.10/6
Minimize by error sources	173.19 ± 1.46	0.37	0.32	0	0.75	0	0.24	0.01	~ 0	0.10	0.73	0.52	0.09	0.25	0.48	0.10	0.12	0.16	0.31	1.96/6
Minimize by off-diagonal elements	172.98 ± 1.48	0.34	0.33	0	0.77	0	0.21	~ 0	~ 0	0.08	0.76	0.52	0.10	0.25	0.50	0.10	0.10	0.16	0.32	1.73/6
Remove negative CVWs	172.98 ± 1.48	0.34	0.33	0	0.77	0	0.21	0	0	0.08	0.76	0.52	0.10	0.25	0.50	0.10	0.10	0.16	0.32	0.64/1
Onionize	173.05 ± 1.45	0.34	0.31	0	0.76	0	0.24	0.01	~ 0	0.08	0.76	0.50	0.10	0.25	0.47	0.10	0.10	0.15	0.30	1.68/6
NO correlations	173.22 ± 1.06	0.39	0.20	0	0.49	0	0.39	0.09	0.03	0.09	0.47	0.28	0.08	0.19	0.32	0.07	0.16	0.12	0.19	1.09/6

Table 22: Summary table. BLUE's of the combinations performed with nominal and modified correlations.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

2.2 Minimize correlations by a global rescaling factor.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI
ALJ10	169.30 ± 6.37	-5.32	5.03	3.71	4.59	4.00	0	0	2.50	0	2.10	0	0	1.00	2.50	0.60	0.50	1.20	0.60	1.80	0.60	0.40	0.70
ALJ11	174.50 ± 2.41	27.46	35.08	12.28	23.73	0.60	0.40	0	1.60	0	0.70	0	0	0.40	1.00	0.60	0.10	0.30	0.60	0.10	0.50	0.10	0
AJT11	174.90 ± 4.46	0.53	10.28	0.02	0.46	2.10	0	0	1.40	0	2.10	0	0	0.50	1.70	0.60	0.60	0.50	0.60	0	1.90	1.00	0
CLL10	175.50 ± 6.50	-1.41	4.83	0.35	1.22	4.60	0	0	0.90	0	2.10	3.30	0.30	0.40	0.90	0.50	0.50	0.60	1.40	0.10	0	0.30	1.00
CLJ10	173.10 ± 3.43	1.64	17.37	0.10	1.42	2.10	0	0	0.90	0	2.10	0	0	0	1.20	0.50	0.10	0.40	0.20	0.20	0.40	0.10	0.10
CLL11	173.30 ± 2.99	-1.14	22.78	0.03	0.98	1.20	0	0	1.10	0	2.00	0	0.20	0.10	0.80	0.50	0.40	0.70	0.60	0	0.40	0.40	0.20
CMJ11	172.60 ± 1.55	78.23	84.71	47.54	67.60	0.40	0.40	0	0.70	0	0.20	0	0	0	0.80	0.50	0.10	0.30	0.60	0.10	0	0.20	0.40
Correlations	—	—	-80.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BLUE mt	173.27 ± 1.43	100.00	100.00	64.03	100.00	0.42	0.33	0	0.74	0	0.18	0.05	0.01	0.07	0.71	0.51	0.07	0.23	0.47	0.05	0.14	0.16	0.27

Table 23: BLUE of the combination (χ^2/ndof= 2.10/6). For each input measurement i the following are listed: the central value weight CVW$_i$ or λ_i, the intrinsic information weight IIW$_i$, the marginal information weight MIW$_i$, the relative importance RI$_i$. The intrinsic information weight IIW$_{\text{corr}}$ of correlations is also shown on a separate row.

Parameter name	ParID	Parameter value	1/I$^{\text{nom}}$*dI/dX			Fixed or
		ScaleFactor X @MIN	@0	@MIN	@1	Variable
GlobalScaleFact	#0	0.8746 ± 0.8162	-2.9074	∼ 0	0.2204	Variable

Table 24: Normalised Fisher information derivatives 1/I$^{\text{nom}}$*dI/dX (before and after minimization) and minimization results. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to the corresponding nominal correlation, and all normalized by the information I$^{\text{nom}}$ at nominal correlations ("@1"). They are computed at three different values of the scale factors X: for nominal values of all correlations (i.e. when all scale factors are 1: "@1"), for correlations all equal to zero (i.e. when all scale factors are 0: "@0") and for the scale factors minimizing Fisher information ("@MIN"). In the minimization, the scale factors X were varied (between 0 and 1, starting at 1) unless dI/dX@0 == dI/dX@1 == 0. A minimum was found in this minimization.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

OffDiag & ErrSrc	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	OffDiag
ALJ11 / ALJ10	0	0	0	0.050	0	0.018	0	0	0.005	0.031	0.005	0.001	0.005	0.005	0.002	0	0	0	0.121
AJT11 / ALJ10	0	0	0	0.001	0	0.001	0	0	~ 0	0.001	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0.003
AJT11 / ALJ11	0	0	0	-0.003	0	-0.002	0	0	~ 0	-0.002	~ 0	~ 0	~ 0	~ 0	0	0	0	0	-0.008
CLL10 / ALJ10	0	0	0	-0.001	0	0	0	0	~ 0	-0.001	~ 0	~ 0	0	0	~ 0	0	0	~ 0	-0.002
CLL10 / ALJ11	0	0	0	0.002	0	0	0	0	~ 0	0.001	0.001	~ 0	0	0	~ 0	0	0	0	0.005
CLL10 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / ALJ10	0	0	0	0.001	0	0	0	0	0	0.001	~ 0	~ 0	0	0	~ 0	0	0	~ 0	0.003
CLJ10 / ALJ11	0	0	0	-0.003	0	0	0	0	0	-0.002	-0.001	~ 0	0	0	~ 0	0	0	0	-0.006
CLJ10 / AJT11	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / CLL10	0	0	0	~ 0	0	0.001	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0.001
CLL11 / ALJ10	0	0	0	-0.001	0	0	0	0	~ 0	-0.001	~ 0	~ 0	0	0	0	0	0	~ 0	-0.002
CLL11 / ALJ11	0	0	0	0.002	0	0	0	0	~ 0	0.001	0.001	~ 0	0	0	0	0	0	0	0.004
CLL11 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLL11 / CLL10	0	0	0	~ 0	0	-0.001	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	-0.001
CLL11 / CLJ10	0	0	0	~ 0	0	0.001	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	0.001
CMJ11 / ALJ10	0	0	0	0.031	0	0	0	0	0	0.036	0.011	0.002	0	0	0.006	0	0	0.010	0.096
CMJ11 / ALJ11	0	0	0	-0.103	0	0	0	0	0	-0.074	-0.055	-0.002	0	0	-0.002	0	0	0	-0.236
CMJ11 / AJT11	0	0	0	-0.002	0	0	0	0	0	-0.002	-0.001	~ 0	0	0	0	0	0	0	-0.005
CMJ11 / CLL10	0	0	0	0.006	0	0.004	0	0	0	0.007	0.002	~ 0	0.002	0.008	~ 0	0	0	0.004	0.033
CMJ11 / CLJ10	0	0	0	-0.007	0	-0.005	0	0	0	-0.011	-0.003	~ 0	-0.001	-0.001	~ 0	0	0	~ 0	-0.028
CMJ11 / CLL11	0	0	0	0.006	0	0.003	0	0	0	0.005	0.002	~ 0	0.002	0.003	0	0	0	0.001	0.021
ErrSrc	0	0	0	-0.019	0	0.021	0	~ 0	0.005	-0.009	-0.039	0.001	0.006	0.013	0.007	0	0	0.013	GlobFact ~ 0

Table 25: Normalised Fisher information derivatives 1/I*dI/dX for the combination under consideration. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to its "current" value in the combination under consideration, and all normalized by the information I for the "current" values of correlations. They are computed for the "current" values of correlations (in this case: correlations in minimization by global factor). Color boxes indicate normalised derivatives greater than 0.05 (yellow), 0.10 (orange) and 0.15 (red). The last column and last row list information derivatives when the same rescaling factor is used for a given off-diagonal element or error source, which are equal to the sums of individual derivatives in each row and column, respectively.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	40.57	8.47	12.49	3.39	2.98	2.68	2.35
ALJ11	8.47	5.82	5.72	1.41	1.44	1.43	1.12
AJT11	12.49	5.72	19.86	1.83	1.76	1.76	1.34
CLL10	3.39	1.41	1.83	42.25	6.33	6.93	3.06
CLJ10	2.98	1.44	1.76	6.33	11.75	6.00	2.25
CLL11	2.68	1.43	1.76	6.93	6.00	8.96	2.41
CMJ11	2.35	1.12	1.34	3.06	2.25	2.41	2.41

Table 26: Full input covariance between measurements (summed over error sources). Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	16.00	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	4.41	0	0	0	0
CLL10	0	0	0	21.16	0	0	0
CLJ10	0	0	0	0	4.41	0	0
CLL11	0	0	0	0	0	1.44	0
CMJ11	0	0	0	0	0	0	0.16

Table 27: Partial input covariance between measurements. Error source #0: Stat. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0.16	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0.16

Table 28: Partial input covariance between measurements. Error source #1: iJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 29: Partial input covariance between measurements. Error source #2: aJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	3.50	3.06	0.98	0.98	1.20	0.77
ALJ11	3.50	2.56	1.96	0.63	0.63	0.77	0.49
AJT11	3.06	1.96	1.96	0.55	0.55	0.67	0.43
CLL10	0.98	0.63	0.55	0.81	0.71	0.87	0.55
CLJ10	0.98	0.63	0.55	0.71	0.81	0.87	0.55
CLL11	1.20	0.77	0.67	0.87	0.87	1.21	0.67
CMJ11	0.77	0.49	0.43	0.55	0.55	0.67	0.49

Table 30: Partial input covariance between measurements. Error source #3: bJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 31: Partial input covariance between measurements. Error source #4: cJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	4.41	1.29	3.86	0	0	0	0
ALJ11	1.29	0.49	1.29	0	0	0	0
AJT11	3.86	1.29	4.41	0	0	0	0
CLL10	0	0	0	4.41	3.86	3.67	0.37
CLJ10	0	0	0	3.86	4.41	3.67	0.37
CLL11	0	0	0	3.67	3.67	4.00	0.35
CMJ11	0	0	0	0.37	0.37	0.35	0.04

Table 32: Partial input covariance between measurements. Error source #5: dJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	10.89	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 33: Partial input covariance between measurements. Error source #6: rJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0.09	0	0.05	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0.05	0	0.04	0
CMJ11	0	0	0	0	0	0	0

Table 34: Partial input covariance between measurements. Error source #7: Lept. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.00	0.35	0.44	0.17	0	0.04	0
ALJ11	0.35	0.16	0.17	0.07	0	0.02	0
AJT11	0.44	0.17	0.25	0.09	0	0.02	0
CLL10	0.17	0.07	0.09	0.16	0	0.03	0
CLJ10	0	0	0	0	0	0	0
CLL11	0.04	0.02	0.02	0.03	0	0.01	0
CMJ11	0	0	0	0	0	0	0

Table 35: Partial input covariance between measurements. Error source #8: MC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	2.19	3.72	0.98	1.31	0.87	0.87
ALJ11	2.19	1.00	1.49	0.39	0.52	0.35	0.35
AJT11	3.72	1.49	2.89	0.67	0.89	0.59	0.59
CLL10	0.98	0.39	0.67	0.81	0.94	0.63	0.63
CLJ10	1.31	0.52	0.89	0.94	1.44	0.84	0.84
CLL11	0.87	0.35	0.59	0.63	0.84	0.64	0.56
CMJ11	0.87	0.35	0.59	0.63	0.84	0.56	0.64

Table 36: Partial input covariance between measurements. Error source #9: Rad. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.31	0.31	0.26	0.26	0.26	0.26
ALJ11	0.31	0.36	0.31	0.26	0.26	0.26	0.26
AJT11	0.31	0.31	0.36	0.26	0.26	0.26	0.26
CLL10	0.26	0.26	0.26	0.25	0.22	0.22	0.22
CLJ10	0.26	0.26	0.26	0.22	0.25	0.22	0.22
CLL11	0.26	0.26	0.26	0.22	0.22	0.25	0.22
CMJ11	0.26	0.26	0.26	0.22	0.22	0.22	0.25

Table 37: Partial input covariance between measurements. Error source #10: CR. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.25	0.04	0.26	0.22	0.04	0.17	0.04
ALJ11	0.04	0.01	0.05	0.04	0.01	0.03	0.01
AJT11	0.26	0.05	0.36	0.26	0.05	0.21	0.05
CLL10	0.22	0.04	0.26	0.25	0.04	0.17	0.04
CLJ10	0.04	0.01	0.05	0.04	0.01	0.03	0.01
CLL11	0.17	0.03	0.21	0.17	0.03	0.16	0.03
CMJ11	0.04	0.01	0.05	0.04	0.01	0.03	0.01

Table 38: Partial input covariance between measurements. Error source #11: PDF. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.44	0.31	0.52	0	0	0	0
ALJ11	0.31	0.09	0.13	0	0	0	0
AJT11	0.52	0.13	0.25	0	0	0	0
CLL10	0	0	0	0.36	0.21	0.37	0.16
CLJ10	0	0	0	0.21	0.16	0.24	0.10
CLL11	0	0	0	0.37	0.24	0.49	0.18
CMJ11	0	0	0	0.16	0.10	0.18	0.09

Table 39: Partial input covariance between measurements. Error source #12: DTMO. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.31	0.31	0	0	0	0
ALJ11	0.31	0.36	0.31	0	0	0	0
AJT11	0.31	0.31	0.36	0	0	0	0
CLL10	0	0	0	1.96	0.24	0.73	0.73
CLJ10	0	0	0	0.24	0.04	0.10	0.10
CLL11	0	0	0	0.73	0.10	0.36	0.31
CMJ11	0	0	0	0.73	0.10	0.31	0.36

Table 40: Partial input covariance between measurements. Error source #13: UE. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	3.24	0.16	0	0.16	0.31	0	0.16
ALJ11	0.16	0.01	0	0.01	0.02	0	0.01
AJT11	0	0	0	0	0	0	0
CLL10	0.16	0.01	0	0.01	0.02	0	0.01
CLJ10	0.31	0.02	0	0.02	0.04	0	0.02
CLL11	0	0	0	0	0	0	0
CMJ11	0.16	0.01	0	0.01	0.02	0	0.01

Table 41: Partial input covariance between measurements. Error source #14: BGMC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.25	0	0	0	0	0
AJT11	0	0	3.61	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0.16	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0

Table 42: Partial input covariance between measurements. Error source #15: BGDT. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.16	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	1.00	0	0	0	0
CLL10	0	0	0	0.09	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0.04

Table 43: Partial input covariance between measurements. Error source #16: Meth. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.49	0	0	0.61	0.06	0.12	0.24
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0.61	0	0	1.00	0.09	0.17	0.35
CLJ10	0.06	0	0	0.09	0.01	0.02	0.03
CLL11	0.12	0	0	0.17	0.02	0.04	0.07
CMJ11	0.24	0	0	0.35	0.03	0.07	0.16

Table 44: Partial input covariance between measurements. Error source #17: MHI. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

2.3 Minimize correlations by one factor per error source.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI
ALJ10	169.30 ± 6.37	-3.66	5.26	1.88	3.38	4.00	0	0	2.50	0	2.10	0	0	1.00	2.50	0.60	0.50	1.20	0.60	1.80	0.60	0.40	0.70
ALJ11	174.50 ± 2.41	23.39	36.69	9.35	21.63	0.60	0.40	0	1.60	0	0.70	0	0	0.40	1.00	0.60	0.10	0.30	0.60	0.10	0.50	0.10	0
AJT11	174.90 ± 4.46	0.59	10.75	0.03	0.55	2.10	0	0	1.40	0	2.10	0	0	0.50	1.70	0.60	0.60	0.50	0.60	0	1.90	1.00	0
CLL10	175.50 ± 6.50	-0.40	5.05	0.03	0.37	4.60	0	0	0.90	0	2.10	3.30	0.30	0.40	0.90	0.50	0.50	0.60	1.40	0.10	0	0.30	1.00
CLJ10	173.10 ± 3.43	2.03	18.17	0.19	1.88	2.10	0	0	0.90	0	2.10	0	0	0	1.20	0.50	0.10	0.40	0.20	0.20	0.40	0.10	0.10
CLL11	173.30 ± 2.99	1.24	23.83	0.05	1.14	1.20	0	0	1.10	0	2.00	0	0.20	0.10	0.80	0.50	0.40	0.70	0.60	0	0.40	0.40	0.20
CMJ11	172.60 ± 1.55	76.81	88.59	42.24	71.04	0.40	0.40	0	0.70	0	0.20	0	0	0	0.80	0.50	0.10	0.30	0.60	0.10	0	0.20	0.40
Correlations	—	—	-88.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BLUE mt	173.19 ± 1.46	100.00	100.00	53.77	100.00	0.37	0.32	0	0.75	0	0.24	0.01	∼ 0	0.10	0.73	0.52	0.09	0.25	0.48	0.10	0.12	0.16	0.31

Table 45: BLUE of the combination (χ^2/ndof= 1.96/6). For each input measurement i the following are listed: the central value weight CVW_i or λ_i, the intrinsic information weight IIW_i , the marginal information weight MIW_i, the relative importance RI_i. The intrinsic information weight $\mathrm{IIW}_{\mathrm{corr}}$ of correlations is also shown on a separate row.

Parameter name	ParID	Parameter value	$1/I^{nom}$*dI/dX			Fixed or
		ScaleFactor X @MIN	@0	@MIN	@1	Variable
Stat	#0	1.0000 ± N/A	0	0	0	FIXED
iJES	#1	1.0000 ± N/A	0	0	0	FIXED
aJES	#2	1.0000 ± N/A	0	0	0	FIXED
bJES	#3	1.0000 ± 0.8440	-0.8963	-0.0582	0.0487	Variable
cJES	#4	1.0000 ± N/A	0	0	0	FIXED
dJES	#5	∼ 0 ± 0.9078	-0.4907	0.0017	0.0517	Variable
rJES	#6	1.0000 ± N/A	0	0	0	FIXED
Lept	#7	∼ 0 ± 0.5803	-0.0006	∼ 0	-0.0001	Variable
MC	#8	∼ 0 ± 0.5038	-0.0217	0.0029	0.0090	Variable
Rad	#9	1.0000 ± 0.9920	-0.8110	-0.0426	0.0499	Variable
CR	#10	1.0000 ± 1.0000	-0.3164	-0.0455	-0.0317	Variable
PDF	#11	1.0000 ± 0.5002	-0.0450	-0.0006	0.0038	Variable
DTMO	#12	1.0000 ± 0.6556	-0.0949	-0.0003	0.0184	Variable
UE	#13	0.8375 ± 0.9183	-0.1538	∼ 0	0.0347	Variable
BGMC	#14	∼ 0 ± 0.5160	-0.0216	0.0041	0.0120	Variable
BGDT	#15	1.0000 ± N/A	0	0	0	FIXED
Meth	#16	1.0000 ± N/A	0	0	0	FIXED
MHI	#17	∼ 0 ± 0.5000	-0.0555	0.0069	0.0241	Variable

Table 46: Normalised Fisher information derivatives $1/I^{nom}$*dI/dX (before and after minimization) and minimization results. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to the corresponding nominal correlation, and all normalized by the information I^{nom} at nominal correlations ("@1"). They are computed at three different values of the scale factors X: for nominal values of all correlations (i.e. when all scale factors are 1: "@1"), for correlations all equal to zero (i.e. when all scale factors are 0: "@0") and for the scale factors minimizing Fisher information ("@MIN"). In the minimization, the scale factors X were varied (between 0 and 1, starting at 1) unless dI/dX@0 == dI/dX@1 == 0. A minimum was found in this minimization.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

OffDiag & ErrSrc	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	OffDiag
ALJ11 / ALJ10	0	0	0	0.032	0	~ 0	0	0	~ 0	0.020	0.003	~ 0	0.003	0.002	~ 0	0	0	0	0.061
AJT11 / ALJ10	0	0	0	0.001	0	~ 0	0	0	~ 0	0.001	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0.002
AJT11 / ALJ11	0	0	0	-0.003	0	~ 0	0	0	~ 0	-0.002	~ 0	~ 0	~ 0	~ 0	0	0	0	0	-0.006
CLL10 / ALJ10	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	~ 0	~ 0
CLL10 / ALJ11	0	0	0	0.001	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	0	0.001
CLL10 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / ALJ10	0	0	0	0.001	0	0	0	0	0	0.001	~ 0	~ 0	0	0	~ 0	0	0	~ 0	0.002
CLJ10 / ALJ11	0	0	0	-0.003	0	0	0	0	0	-0.003	-0.001	~ 0	0	0	~ 0	0	0	0	-0.007
CLJ10 / AJT11	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / CLL10	0	0	0	~ 0	0	~ 0	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	~ 0
CLL11 / ALJ10	0	0	0	0.001	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	~ 0	0.001
CLL11 / ALJ11	0	0	0	-0.002	0	0	0	0	~ 0	-0.001	-0.001	~ 0	0	0	0	0	0	0	-0.004
CLL11 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLL11 / CLL10	0	0	0	~ 0	0	~ 0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	~ 0
CLL11 / CLJ10	0	0	0	~ 0	0	~ 0	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	-0.001
CMJ11 / ALJ10	0	0	0	0.023	0	0	0	0	0	0.026	0.008	0.001	0	0	~ 0	0	0	~ 0	0.059
CMJ11 / ALJ11	0	0	0	-0.094	0	0	0	0	0	-0.067	-0.050	-0.002	0	0	~ 0	0	0	0	-0.214
CMJ11 / AJT11	0	0	0	-0.002	0	0	0	0	0	-0.003	-0.001	~ 0	0	0	0	0	0	0	-0.007
CMJ11 / CLL10	0	0	0	0.002	0	~ 0	0	0	0	0.002	0.001	~ 0	0.001	0.002	~ 0	0	0	~ 0	0.007
CMJ11 / CLJ10	0	0	0	-0.009	0	~ 0	0	0	0	-0.014	-0.004	~ 0	-0.002	-0.001	~ 0	0	0	~ 0	-0.030
CMJ11 / CLL11	0	0	0	-0.007	0	~ 0	0	0	0	-0.006	-0.002	~ 0	-0.002	-0.003	0	0	0	~ 0	-0.020
ErrSrc	0	0	0	-0.062	0	~ 0	0	~ 0	~ 0	-0.045	-0.048	-0.001	~ 0	~ 0	~ 0	0	0	~ 0	GlobFact -0.156

Table 47: Normalised Fisher information derivatives 1/I*dI/dX for the combination under consideration. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to its "current" value in the combination under consideration, and all normalized by the information I for the "current" values of correlations. They are computed for the "current" values of correlations (in this case: correlations in minimization by error source). Color boxes indicate normalised derivatives greater than 0.05 (yellow), 0.10 (orange) and 0.15 (red). The last column and last row list information derivatives when the same rescaling factor is used for a given off-diagonal element or error source, which are equal to the sums of individual derivatives in each row and column, respectively.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	40.57	7.57	9.31	2.80	2.97	2.87	2.22
ALJ11	7.57	5.82	4.81	1.52	1.63	1.62	1.27
AJT11	9.31	4.81	19.86	1.99	2.01	1.99	1.53
CLL10	2.80	1.52	1.99	42.25	2.66	3.28	2.53
CLJ10	2.97	1.63	2.01	2.66	11.75	2.62	2.07
CLL11	2.87	1.62	1.99	3.28	2.62	8.96	2.21
CMJ11	2.22	1.27	1.53	2.53	2.07	2.21	2.41

Table 48: Full input covariance between measurements (summed over error sources). Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	16.00	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	4.41	0	0	0	0
CLL10	0	0	0	21.16	0	0	0
CLJ10	0	0	0	0	4.41	0	0
CLL11	0	0	0	0	0	1.44	0
CMJ11	0	0	0	0	0	0	0.16

Table 49: Partial input covariance between measurements. Error source #0: Stat. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0.16	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0.16

Table 50: Partial input covariance between measurements. Error source #1: iJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 51: Partial input covariance between measurements. Error source #2: aJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	4.00	3.50	1.12	1.12	1.37	0.87
ALJ11	4.00	2.56	2.24	0.72	0.72	0.88	0.56
AJT11	3.50	2.24	1.96	0.63	0.63	0.77	0.49
CLL10	1.12	0.72	0.63	0.81	0.81	0.99	0.63
CLJ10	1.12	0.72	0.63	0.81	0.81	0.99	0.63
CLL11	1.37	0.88	0.77	0.99	0.99	1.21	0.77
CMJ11	0.87	0.56	0.49	0.63	0.63	0.77	0.49

Table 52: Partial input covariance between measurements. Error source #3: bJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 53: Partial input covariance between measurements. Error source #4: cJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	4.41	∼0	∼0	0	0	0	0
ALJ11	∼0	0.49	∼0	0	0	0	0
AJT11	∼0	∼0	4.41	0	0	0	0
CLL10	0	0	0	4.41	∼0	∼0	∼0
CLJ10	0	0	0	∼0	4.41	∼0	∼0
CLL11	0	0	0	∼0	∼0	4.00	∼0
CMJ11	0	0	0	∼0	∼0	∼0	0.04

Table 54: Partial input covariance between measurements. Error source #5: dJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	10.89	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 55: Partial input covariance between measurements. Error source #6: rJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0.09	0	∼0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	∼0	0	0.04	0
CMJ11	0	0	0	0	0	0	0

Table 56: Partial input covariance between measurements. Error source #7: Lept. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.00	∼0	∼0	∼0	0	∼0	0
ALJ11	∼0	0.16	∼0	∼0	0	∼0	0
AJT11	∼0	∼0	0.25	∼0	0	∼0	0
CLL10	∼0	∼0	∼0	0.16	0	∼0	0
CLJ10	0	0	0	0	0	0	0
CLL11	∼0	∼0	∼0	∼0	0	0.01	0
CMJ11	0	0	0	0	0	0	0

Table 57: Partial input covariance between measurements. Error source #8: MC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	2.50	4.25	1.12	1.50	1.00	1.00
ALJ11	2.50	1.00	1.70	0.45	0.60	0.40	0.40
AJT11	4.25	1.70	2.89	0.76	1.02	0.68	0.68
CLL10	1.12	0.45	0.76	0.81	1.08	0.72	0.72
CLJ10	1.50	0.60	1.02	1.08	1.44	0.96	0.96
CLL11	1.00	0.40	0.68	0.72	0.96	0.64	0.64
CMJ11	1.00	0.40	0.68	0.72	0.96	0.64	0.64

Table 58: Partial input covariance between measurements. Error source #9: Rad. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.36	0.36	0.30	0.30	0.30	0.30
ALJ11	0.36	0.36	0.36	0.30	0.30	0.30	0.30
AJT11	0.36	0.36	0.36	0.30	0.30	0.30	0.30
CLL10	0.30	0.30	0.30	0.25	0.25	0.25	0.25
CLJ10	0.30	0.30	0.30	0.25	0.25	0.25	0.25
CLL11	0.30	0.30	0.30	0.25	0.25	0.25	0.25
CMJ11	0.30	0.30	0.30	0.25	0.25	0.25	0.25

Table 59: Partial input covariance between measurements. Error source #10: CR. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.25	0.05	0.30	0.25	0.05	0.20	0.05
ALJ11	0.05	0.01	0.06	0.05	0.01	0.04	0.01
AJT11	0.30	0.06	0.36	0.30	0.06	0.24	0.06
CLL10	0.25	0.05	0.30	0.25	0.05	0.20	0.05
CLJ10	0.05	0.01	0.06	0.05	0.01	0.04	0.01
CLL11	0.20	0.04	0.24	0.20	0.04	0.16	0.04
CMJ11	0.05	0.01	0.06	0.05	0.01	0.04	0.01

Table 60: Partial input covariance between measurements. Error source #11: PDF. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.44	0.36	0.60	0	0	0	0
ALJ11	0.36	0.09	0.15	0	0	0	0
AJT11	0.60	0.15	0.25	0	0	0	0
CLL10	0	0	0	0.36	0.24	0.42	0.18
CLJ10	0	0	0	0.24	0.16	0.28	0.12
CLL11	0	0	0	0.42	0.28	0.49	0.21
CMJ11	0	0	0	0.18	0.12	0.21	0.09

Table 61: Partial input covariance between measurements. Error source #12: DTMO. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.30	0.30	0	0	0	0
ALJ11	0.30	0.36	0.30	0	0	0	0
AJT11	0.30	0.30	0.36	0	0	0	0
CLL10	0	0	0	1.96	0.23	0.70	0.70
CLJ10	0	0	0	0.23	0.04	0.10	0.10
CLL11	0	0	0	0.70	0.10	0.36	0.30
CMJ11	0	0	0	0.70	0.10	0.30	0.36

Table 62: Partial input covariance between measurements. Error source #13: UE. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	3.24	∼0	0	∼0	∼0	0	∼0
ALJ11	∼0	0.01	0	∼0	∼0	0	∼0
AJT11	0	0	0	0	0	0	0
CLL10	∼0	∼0	0	0.01	∼0	0	∼0
CLJ10	∼0	∼0	0	∼0	0.04	0	∼0
CLL11	0	0	0	0	0	0	0
CMJ11	∼0	∼0	0	∼0	∼0	0	0.01

Table 63: Partial input covariance between measurements. Error source #14: BGMC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.25	0	0	0	0	0
AJT11	0	0	3.61	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0.16	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0

Table 64: Partial input covariance between measurements. Error source #15: BGDT. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.16	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	1.00	0	0	0	0
CLL10	0	0	0	0.09	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0.04

Table 65: Partial input covariance between measurements. Error source #16: Meth. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.49	0	0	∼0	∼0	∼0	∼0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	∼0	0	0	1.00	∼0	∼0	∼0
CLJ10	∼0	0	0	∼0	0.01	∼0	∼0
CLL11	∼0	0	0	∼0	∼0	0.04	∼0
CMJ11	∼0	0	0	∼0	∼0	∼0	0.16

Table 66: Partial input covariance between measurements. Error source #17: MHI. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

2.4 Minimize correlations by one factor per off-diagonal element.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI
ALJ10	169.30 ± 6.37	∼ 0	5.39	∼ 0	∼ 0	4.00	0	0	2.50	0	2.10	0	0	1.00	2.50	0.60	0.50	1.20	0.60	1.80	0.60	0.40	0.70
ALJ11	174.50 ± 2.41	19.93	37.54	7.43	19.93	0.60	0.40	0	1.60	0	0.70	0	0	0.40	1.00	0.60	0.10	0.30	0.60	0.10	0.50	0.10	0
AJT11	174.90 ± 4.46	∼ 0	11.00	∼ 0	∼ 0	2.10	0	0	1.40	0	2.10	0	0	0.50	1.70	0.60	0.60	0.50	0.60	0	1.90	1.00	0
CLL10	175.50 ± 6.50	∼ 0	5.17	∼ 0	∼ 0	4.60	0	0	0.90	0	2.10	3.30	0.30	0.40	0.90	0.50	0.50	0.60	1.40	0.10	0	0.30	1.00
CLJ10	173.10 ± 3.43	∼ 0	18.59	∼ 0	∼ 0	2.10	0	0	0.90	0	2.10	0	0	0	1.20	0.50	0.10	0.40	0.20	0.20	0.40	0.10	0.10
CLL11	173.30 ± 2.99	∼ 0	24.38	∼ 0	∼ 0	1.20	0	0	1.10	0	2.00	0	0.20	0.10	0.80	0.50	0.40	0.70	0.60	0	0.40	0.40	0.20
CMJ11	172.60 ± 1.55	80.07	90.66	47.50	80.07	0.40	0.40	0	0.70	0	0.20	0	0	0	0.80	0.50	0.10	0.30	0.60	0.10	0	0.20	0.40
Correlations	—	—	-92.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BLUE mt	172.98 ± 1.48	100.00	100.00	54.93	100.00	0.34	0.33	0	0.77	0	0.21	∼ 0	∼ 0	0.08	0.76	0.52	0.10	0.25	0.50	0.10	0.10	0.16	0.32

Table 67: BLUE of the combination (χ^2/ndof= 1.73/6). For each input measurement i the following are listed: the central value weight CVW_i or λ_i, the intrinsic information weight IIW_i , the marginal information weight MIW_i, the relative importance RI_i. The intrinsic information weight $\mathrm{IIW}_{\mathrm{corr}}$ of correlations is also shown on a separate row.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

Parameter name	ParID	Parameter value ScaleFactor X @MIN	$1/I^{nom}$*dI/dX @0	@MIN	@1	Fixed or Variable
ALJ11/ALJ10	#0	0.5014 ± 0.7326	-0.1652	∼ 0	0.2094	Variable
AJT11/ALJ10	#1	0.7554 ± 0.5146	-0.0714	∼ 0	-0.0057	Variable
AJT11/ALJ11	#2	0.7611 ± 0.8775	-0.2280	∼ 0	0.0111	Variable
CLL10/ALJ10	#3	0.9838 ± 0.7853	-0.0091	∼ 0	-0.0049	Variable
CLL10/ALJ11	#4	0.9832 ± 0.7837	-0.0264	∼ 0	0.0087	Variable
CLL10/AJT11	#5	0.0888 ± 0.6618	-0.0101	∼ 0	-0.0002	Variable
CLJ10/ALJ10	#6	∼ 0 ± 0.8540	-0.0288	∼ 0	0.0024	Variable
CLJ10/ALJ11	#7	0.9966 ± 0.8254	-0.0972	∼ 0	-0.0050	Variable
CLJ10/AJT11	#8	0.9877 ± 0.7951	-0.0347	∼ 0	0.0001	Variable
CLJ10/CLL10	#9	0.8709 ± 0.9151	-0.0588	∼ 0	0.0013	Variable
CLL11/ALJ10	#10	∼ 0 ± 0.8569	-0.0340	∼ 0	-0.0114	Variable
CLL11/ALJ11	#11	0.9995 ± 0.8436	-0.1267	∼ 0	0.0261	Variable
CLL11/AJT11	#12	0.8958 ± 0.6413	-0.0456	∼ 0	-0.0006	Variable
CLL11/CLL10	#13	0.9451 ± 0.9187	-0.0843	∼ 0	-0.0074	Variable
CLL11/CLJ10	#14	0.9928 ± 0.8874	-0.2626	∼ 0	0.0035	Variable
CMJ11/ALJ10	#15	0.5663 ± 0.7758	-0.1107	∼ 0	0.1584	Variable
CMJ11/ALJ11	#16	1.0000 ± 0.8182	-0.3677	-0.1724	-0.3227	Variable
CMJ11/AJT11	#17	0.9736 ± 0.9074	-0.1288	∼ 0	0.0071	Variable
CMJ11/CLL10	#18	0.6670 ± 0.8335	-0.1385	∼ 0	0.0518	Variable
CMJ11/CLJ10	#19	0.9024 ± 0.9085	-0.3657	∼ 0	-0.0211	Variable
CMJ11/CLL11	#20	0.8439 ± 0.8864	-0.5132	∼ 0	0.1194	Variable

Table 68: Normalised Fisher information derivatives $1/I^{nom}$*dI/dX (before and after minimization) and minimization results. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to the corresponding nominal correlation, and all normalized by the information I^{nom} at nominal correlations ("@1"). They are computed at three different values of the scale factors X: for nominal values of all correlations (i.e. when all scale factors are 1: "@1"), for correlations all equal to zero (i.e. when all scale factors are 0: "@0") and for the scale factors minimizing Fisher information ("@MIN"). In the minimization, the scale factors X were varied (between 0 and 1, starting at onionized covariances) unless dI/dX@0 == dI/dX@1 == 0. A minimum was found in this minimization.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

OffDiag & ErrSrc	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	OffDiag
ALJ11 / ALJ10	0	0	0	~ 0	0	~ 0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0
AJT11 / ALJ10	0	0	0	~ 0	0	~ 0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	~ 0
AJT11 / ALJ11	0	0	0	~ 0	0	~ 0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	~ 0
CLL10 / ALJ10	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	~ 0	~ 0
CLL10 / ALJ11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	0	~ 0
CLL10 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / ALJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLJ10 / ALJ11	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	0	~ 0
CLJ10 / AJT11	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / CLL10	0	0	0	~ 0	0	~ 0	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	~ 0
CLL11 / ALJ10	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	0	0	0	0	0	0	0	~ 0
CLL11 / ALJ11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLL11 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLL11 / CLL10	0	0	0	~ 0	0	~ 0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	~ 0
CLL11 / CLJ10	0	0	0	~ 0	0	~ 0	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	~ 0
CMJ11 / ALJ10	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	~ 0	~ 0
CMJ11 / ALJ11	0	0	0	-0.082	0	0	0	0	0	-0.058	-0.044	-0.001	0	0	-0.001	0	0	0	-0.187
CMJ11 / AJT11	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CMJ11 / CLL10	0	0	0	~ 0	0	~ 0	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	~ 0
CMJ11 / CLJ10	0	0	0	~ 0	0	~ 0	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	~ 0
CMJ11 / CLL11	0	0	0	~ 0	0	~ 0	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	~ 0
ErrSrc	0	0	0	-0.082	0	~ 0	0	~ 0	~ 0	-0.058	-0.044	-0.001	~ 0	~ 0	-0.001	0	0	~ 0	GlobFact -0.187

Table 69: Normalised Fisher information derivatives 1/I*dI/dX for the combination under consideration. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to its "current" value in the combination under consideration, and all normalized by the information I for the "current" values of correlations. They are computed for the "current" values of correlations (in this case: correlations in minimization by off-diagonal elements). Color boxes indicate normalised derivatives greater than 0.05 (yellow), 0.10 (orange) and 0.15 (red). The last column and last row list information derivatives when the same rescaling factor is used for a given off-diagonal element or error source, which are equal to the sums of individual derivatives in each row and column, respectively.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	40.57	4.85	10.79	3.82	~0	~0	1.52
ALJ11	4.85	5.82	4.98	1.58	1.64	1.64	1.28
AJT11	10.79	4.98	19.86	0.19	1.99	1.81	1.49
CLL10	3.82	1.58	0.19	42.25	6.31	7.49	2.33
CLJ10	~0	1.64	1.99	6.31	11.75	6.81	2.32
CLL11	~0	1.64	1.81	7.49	6.81	8.96	2.32
CMJ11	1.52	1.28	1.49	2.33	2.32	2.32	2.41

Table 70: Full input covariance between measurements (summed over error sources). Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	16.00	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	4.41	0	0	0	0
CLL10	0	0	0	21.16	0	0	0
CLJ10	0	0	0	0	4.41	0	0
CLL11	0	0	0	0	0	1.44	0
CMJ11	0	0	0	0	0	0	0.16

Table 71: Partial input covariance between measurements. Error source #0: Stat. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0.16	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0.16

Table 72: Partial input covariance between measurements. Error source #1: iJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 73: Partial input covariance between measurements. Error source #2: aJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	2.01	2.64	1.11	∼0	∼0	0.50
ALJ11	2.01	2.56	1.70	0.71	0.72	0.88	0.56
AJT11	2.64	1.70	1.96	0.06	0.62	0.69	0.48
CLL10	1.11	0.71	0.06	0.81	0.71	0.94	0.42
CLJ10	∼0	0.72	0.62	0.71	0.81	0.98	0.57
CLL11	∼0	0.88	0.69	0.94	0.98	1.21	0.65
CMJ11	0.50	0.56	0.48	0.42	0.57	0.65	0.49

Table 74: Partial input covariance between measurements. Error source #3: bJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 75: Partial input covariance between measurements. Error source #4: cJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	4.41	0.74	3.33	0	0	0	0
ALJ11	0.74	0.49	1.12	0	0	0	0
AJT11	3.33	1.12	4.41	0	0	0	0
CLL10	0	0	0	4.41	3.84	3.97	0.28
CLJ10	0	0	0	3.84	4.41	4.17	0.38
CLL11	0	0	0	3.97	4.17	4.00	0.34
CMJ11	0	0	0	0.28	0.38	0.34	0.04

Table 76: Partial input covariance between measurements. Error source #5: dJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	10.89	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 77: Partial input covariance between measurements. Error source #6: rJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0.09	0	0.06	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0.06	0	0.04	0
CMJ11	0	0	0	0	0	0	0

Table 78: Partial input covariance between measurements. Error source #7: Lept. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.00	0.20	0.38	0.20	0	∼0	0
ALJ11	0.20	0.16	0.15	0.08	0	0.02	0
AJT11	0.38	0.15	0.25	0.01	0	0.02	0
CLL10	0.20	0.08	0.01	0.16	0	0.04	0
CLJ10	0	0	0	0	0	0	0
CLL11	∼0	0.02	0.02	0.04	0	0.01	0
CMJ11	0	0	0	0	0	0	0

Table 79: Partial input covariance between measurements. Error source #8: MC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	1.25	3.21	1.11	∼0	∼0	0.57
ALJ11	1.25	1.00	1.29	0.44	0.60	0.40	0.40
AJT11	3.21	1.29	2.89	0.07	1.01	0.61	0.66
CLL10	1.11	0.44	0.07	0.81	0.94	0.68	0.48
CLJ10	∼0	0.60	1.01	0.94	1.44	0.95	0.87
CLL11	∼0	0.40	0.61	0.68	0.95	0.64	0.54
CMJ11	0.57	0.40	0.66	0.48	0.87	0.54	0.64

Table 80: Partial input covariance between measurements. Error source #9: Rad. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.18	0.27	0.30	∼0	∼0	0.17
ALJ11	0.18	0.36	0.27	0.29	0.30	0.30	0.30
AJT11	0.27	0.27	0.36	0.03	0.30	0.27	0.29
CLL10	0.30	0.29	0.03	0.25	0.22	0.24	0.17
CLJ10	∼0	0.30	0.30	0.22	0.25	0.25	0.23
CLL11	∼0	0.30	0.27	0.24	0.25	0.25	0.21
CMJ11	0.17	0.30	0.29	0.17	0.23	0.21	0.25

Table 81: Partial input covariance between measurements. Error source #10: CR. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.25	0.03	0.23	0.25	∼0	∼0	0.03
ALJ11	0.03	0.01	0.05	0.05	0.01	0.04	0.01
AJT11	0.23	0.05	0.36	0.03	0.06	0.21	0.06
CLL10	0.25	0.05	0.03	0.25	0.04	0.19	0.03
CLJ10	∼0	0.01	0.06	0.04	0.01	0.04	0.01
CLL11	∼0	0.04	0.21	0.19	0.04	0.16	0.03
CMJ11	0.03	0.01	0.06	0.03	0.01	0.03	0.01

Table 82: Partial input covariance between measurements. Error source #11: PDF. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.44	0.18	0.45	0	0	0	0
ALJ11	0.18	0.09	0.11	0	0	0	0
AJT11	0.45	0.11	0.25	0	0	0	0
CLL10	0	0	0	0.36	0.21	0.40	0.12
CLJ10	0	0	0	0.21	0.16	0.28	0.11
CLL11	0	0	0	0.40	0.28	0.49	0.18
CMJ11	0	0	0	0.12	0.11	0.18	0.09

Table 83: Partial input covariance between measurements. Error source #12: DTMO. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.18	0.27	0	0	0	0
ALJ11	0.18	0.36	0.27	0	0	0	0
AJT11	0.27	0.27	0.36	0	0	0	0
CLL10	0	0	0	1.96	0.24	0.79	0.56
CLJ10	0	0	0	0.24	0.04	0.12	0.11
CLL11	0	0	0	0.79	0.12	0.36	0.30
CMJ11	0	0	0	0.56	0.11	0.30	0.36

Table 84: Partial input covariance between measurements. Error source #13: UE. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	3.24	0.09	0	0.18	∼0	0	0.10
ALJ11	0.09	0.01	0	0.01	0.02	0	0.01
AJT11	0	0	0	0	0	0	0
CLL10	0.18	0.01	0	0.01	0.02	0	0.01
CLJ10	∼0	0.02	0	0.02	0.04	0	0.02
CLL11	0	0	0	0	0	0	0
CMJ11	0.10	0.01	0	0.01	0.02	0	0.01

Table 85: Partial input covariance between measurements. Error source #14: BGMC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.25	0	0	0	0	0
AJT11	0	0	3.61	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0.16	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0

Table 86: Partial input covariance between measurements. Error source #15: BGDT. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.16	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	1.00	0	0	0	0
CLL10	0	0	0	0.09	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0.04

Table 87: Partial input covariance between measurements. Error source #16: Meth. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.49	0	0	0.69	∼0	∼0	0.16
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0.69	0	0	1.00	0.09	0.19	0.27
CLJ10	∼0	0	0	0.09	0.01	0.02	0.04
CLL11	∼0	0	0	0.19	0.02	0.04	0.07
CMJ11	0.16	0	0	0.27	0.04	0.07	0.16

Table 88: Partial input covariance between measurements. Error source #17: MHI. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

2.5 Remove measurements with negative central value weights.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI
ALJ11	174.50 ± 2.41	19.93	37.54	9.34	19.93	0.60	0.40	0	1.60	0	0.70	0	0	0.40	1.00	0.60	0.10	0.30	0.60	0.10	0.50	0.10	0
CMJ11	172.60 ± 1.55	80.07	90.66	62.46	80.07	0.40	0.40	0	0.70	0	0.20	0	0	0	0.80	0.50	0.10	0.30	0.60	0.10	0	0.20	0.40
Correlations	—	—	-28.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BLUE mt	172.98 ± 1.48	100.00	100.00	71.81	100.00	0.34	0.33	0	0.77	0	0.21	0	0	0.08	0.76	0.52	0.10	0.25	0.50	0.10	0.10	0.16	0.32

Table 89: BLUE of the combination (χ^2/ndof= 0.64/1). For each input measurement i the following are listed: the central value weight CVW$_i$ or λ_i, the intrinsic information weight IIW$_i$, the marginal information weight MIW$_i$, the relative importance RI$_i$. The intrinsic information weight IIW$_{\text{corr}}$ of correlations is also shown on a separate row.

N meas in BLUE	Measurement removed in iteration			BLUE	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	χ^2/ndof
	Removed	CVW/%	MIW/%																				
7	ALJ10	-7.14	5.92	173.32 ± 1.42	0.49	0.35	0	0.72	0	0.07	0.06	0.02	0.04	0.69	0.52	0.05	0.21	0.47	0.01	0.16	0.17	0.26	2.46/6
6	CLL11	-4.90	0.44	172.88 ± 1.46	0.39	0.36	0	0.75	0	0.11	0.07	0.02	0.07	0.75	0.52	0.06	0.22	0.48	0.11	0.12	0.18	0.32	0.93/5
5	AJT11	-2.67	0.41	172.89 ± 1.47	0.38	0.35	0	0.77	0	0.14	0.08	0.01	0.07	0.74	0.52	0.08	0.24	0.48	0.10	0.12	0.17	0.31	0.91/4
4	CLL10	-2.38	0.93	172.90 ± 1.47	0.37	0.35	0	0.76	0	0.17	0.08	0.01	0.07	0.75	0.52	0.09	0.24	0.48	0.10	0.10	0.17	0.31	0.90/3
3	CLJ10	-2.24	0.21	172.97 ± 1.48	0.35	0.34	0	0.77	0	0.18	0	0	0.08	0.75	0.52	0.10	0.25	0.50	0.10	0.10	0.17	0.33	0.66/2
2	*NONE*	N/A	N/A	172.98 ± 1.48	0.34	0.33	0	0.77	0	0.21	0	0	0.08	0.76	0.52	0.10	0.25	0.50	0.10	0.10	0.16	0.32	0.64/1

Table 90: From the original combination of 7 with nominal correlations, a new combination where all remaining 2 measurements have central value weights CVW>0 was derived by removing measurements iteratively. At each step of the iteration, the measurement with the most negative CVW<=0 in the combination with N measurements was removed until all remainining measurements had CVW>0 in the combination of N-1 measurements. For each iteration and for the final result, the results of the BLUE and the name, CVW and MIW of the measurement removed in that iteration are displayed.

OffDiag & ErrSrc	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	OffDiag
CMJ11 / ALJ11	0	0	0	-0.082	0	0	0	0	0	-0.058	-0.044	-0.001	0	0	-0.001	0	0	0	-0.187
ErrSrc	0	0	0	-0.082	0	0	0	0	0	-0.058	-0.044	-0.001	0	0	-0.001	0	0	0	GlobFact -0.187

Table 91: Normalised Fisher information derivatives 1/I*dI/dX for the combination under consideration. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to its "current" value in the combination under consideration, and all normalized by the information I for the "current" values of correlations. They are computed for the "current" values of correlations (in this case: correlations in combination with CVW>0 measurements). Color boxes indicate normalised derivatives greater than 0.05 (yellow), 0.10 (orange) and 0.15 (red). The last column and last row list information derivatives when the same rescaling factor is used for a given off-diagonal element or error source, which are equal to the sums of individual derivatives in each row and column, respectively.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ11	CMJ11
ALJ11	5.82	1.28
CMJ11	1.28	2.41

Table 92: Full input covariance between measurements (summed over error sources).

	ALJ11	CMJ11
ALJ11	0.36	0
CMJ11	0	0.16

Table 93: Partial input covariance between measurements. Error source #0: Stat.

	ALJ11	CMJ11
ALJ11	0.16	0
CMJ11	0	0.16

Table 94: Partial input covariance between measurements. Error source #1: iJES.

	ALJ11	CMJ11
ALJ11	0	0
CMJ11	0	0

Table 95: Partial input covariance between measurements. Error source #2: aJES.

	ALJ11	CMJ11
ALJ11	2.56	0.56
CMJ11	0.56	0.49

Table 96: Partial input covariance between measurements. Error source #3: bJES.

	ALJ11	CMJ11
ALJ11	0	0
CMJ11	0	0

Table 97: Partial input covariance between measurements. Error source #4: cJES.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ11	CMJ11
ALJ11	0.49	0
CMJ11	0	0.04

Table 98: Partial input covariance between measurements. Error source #5: dJES.

	ALJ11	CMJ11
ALJ11	0	0
CMJ11	0	0

Table 99: Partial input covariance between measurements. Error source #6: rJES.

	ALJ11	CMJ11
ALJ11	0	0
CMJ11	0	0

Table 100: Partial input covariance between measurements. Error source #7: Lept.

	ALJ11	CMJ11
ALJ11	0.16	0
CMJ11	0	0

Table 101: Partial input covariance between measurements. Error source #8: MC.

	ALJ11	CMJ11
ALJ11	1.00	0.40
CMJ11	0.40	0.64

Table 102: Partial input covariance between measurements. Error source #9: Rad.

	ALJ11	CMJ11
ALJ11	0.36	0.30
CMJ11	0.30	0.25

Table 103: Partial input covariance between measurements. Error source #10: CR.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ11	CMJ11
ALJ11	0.01	0.01
CMJ11	0.01	0.01

Table 104: Partial input covariance between measurements. Error source #11: PDF.

	ALJ11	CMJ11
ALJ11	0.09	0
CMJ11	0	0.09

Table 105: Partial input covariance between measurements. Error source #12: DTMO.

	ALJ11	CMJ11
ALJ11	0.36	0
CMJ11	0	0.36

Table 106: Partial input covariance between measurements. Error source #13: UE.

	ALJ11	CMJ11
ALJ11	0.01	0.01
CMJ11	0.01	0.01

Table 107: Partial input covariance between measurements. Error source #14: BGMC.

	ALJ11	CMJ11
ALJ11	0.25	0
CMJ11	0	0

Table 108: Partial input covariance between measurements. Error source #15: BGDT.

	ALJ11	CMJ11
ALJ11	0.01	0
CMJ11	0	0.04

Table 109: Partial input covariance between measurements. Error source #16: Meth.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ11	CMJ11
ALJ11	0	0
CMJ11	0	0.16

Table 110: Partial input covariance between measurements. Error source #17: MHI.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

2.6 Onionize correlations.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI
ALJ10	169.30 ± 6.37	-0.69	5.21	0.08	0.68	4.00	0	0	2.50	0	2.10	0	0	1.00	2.50	0.60	0.50	1.20	0.60	1.80	0.60	0.40	0.70
ALJ11	174.50 ± 2.41	19.91	36.31	8.11	19.55	0.60	0.40	0	1.60	0	0.70	0	0	0.40	1.00	0.60	0.10	0.30	0.60	0.10	0.50	0.10	0
AJT11	174.90 ± 4.46	0.83	10.64	0.05	0.81	2.10	0	0	1.40	0	2.10	0	0	0.50	1.70	0.60	0.60	0.50	0.60	0	1.90	1.00	0
CLL10	175.50 ± 6.50	-0.25	5.00	0.01	0.24	4.60	0	0	0.90	0	2.10	3.30	0.30	0.40	0.90	0.50	0.50	0.60	1.40	0.10	0	0.30	1.00
CLJ10	173.10 ± 3.43	4.85	17.98	0.85	4.76	2.10	0	0	0.90	0	2.10	0	0	0	1.20	0.50	0.10	0.40	0.20	0.20	0.40	0.10	0.10
CLL11	173.30 ± 2.99	1.25	23.58	0.04	1.23	1.20	0	0	1.10	0	2.00	0	0.20	0.10	0.80	0.50	0.40	0.70	0.60	0	0.40	0.40	0.20
CMJ11	172.60 ± 1.55	74.10	87.68	48.12	72.73	0.40	0.40	0	0.70	0	0.20	0	0	0	0.80	0.50	0.10	0.30	0.60	0.10	0	0.20	0.40
Correlations	—	—	-86.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BLUE mt	173.05 ± 1.45	100.00	100.00	57.26	100.00	0.34	0.31	0	0.76	0	0.24	0.01	∼ 0	0.08	0.76	0.50	0.10	0.25	0.47	0.10	0.10	0.15	0.30

Table 111: BLUE of the combination (χ^2/ndof= 1.68/6). For each input measurement i the following are listed: the central value weight CVW$_i$ or λ_i, the intrinsic information weight IIW$_i$, the marginal information weight MIW$_i$, the relative importance RI$_i$. The intrinsic information weight IIW$_{\rm corr}$ of correlations is also shown on a separate row.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

OffDiag & ErrSrc	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	OffDiag
ALJ11 / ALJ10	0	0	0	0.003	0	0.001	0	0	~ 0	0.001	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	0.007
AJT11 / ALJ10	0	0	0	~ 0	0	~ 0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0.001
AJT11 / ALJ11	0	0	0	-0.003	0	-0.001	0	0	~ 0	-0.002	-0.001	~ 0	~ 0	-0.001	0	0	0	0	-0.007
CLL10 / ALJ10	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	~ 0	~ 0
CLL10 / ALJ11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	0	0.001
CLL10 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLJ10 / ALJ10	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	~ 0	0	0	~ 0	0.001
CLJ10 / ALJ11	0	0	0	-0.007	0	0	0	0	0	-0.005	-0.002	~ 0	0	0	~ 0	0	0	0	-0.015
CLJ10 / AJT11	0	0	0	~ 0	0	0	0	0	0	~ 0	~ 0	~ 0	0	0	0	0	0	0	-0.001
CLJ10 / CLL10	0	0	0	~ 0	0	0.001	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	~ 0	0.001
CLL11 / ALJ10	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	~ 0	~ 0
CLL11 / ALJ11	0	0	0	-0.002	0	0	0	0	~ 0	-0.001	-0.001	~ 0	0	0	0	0	0	0	-0.004
CLL11 / AJT11	0	0	0	~ 0	0	0	0	0	~ 0	~ 0	~ 0	~ 0	0	0	0	0	0	0	~ 0
CLL11 / CLL10	0	0	0	~ 0	0	~ 0	0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	~ 0
CLL11 / CLJ10	0	0	0	~ 0	0	-0.002	0	0	0	~ 0	~ 0	~ 0	~ 0	~ 0	0	0	0	~ 0	-0.003
CMJ11 / ALJ10	0	0	0	0.002	0	0	0	0	0	0.003	0.001	~ 0	0	0	~ 0	0	0	0.001	0.008
CMJ11 / ALJ11	0	0	0	-0.068	0	0	0	0	0	-0.056	-0.035	-0.001	0	0	-0.001	0	0	0	-0.162
CMJ11 / AJT11	0	0	0	-0.003	0	0	0	0	0	-0.004	-0.001	~ 0	0	0	0	0	0	0	-0.008
CMJ11 / CLL10	0	0	0	0.001	0	~ 0	0	0	0	0.001	~ 0	~ 0	~ 0	0.001	~ 0	0	0	~ 0	0.004
CMJ11 / CLJ10	0	0	0	-0.017	0	-0.001	0	0	0	-0.022	-0.009	~ 0	-0.003	-0.001	~ 0	0	0	~ 0	-0.054
CMJ11 / CLL11	0	0	0	-0.004	0	~ 0	0	0	0	-0.006	-0.002	~ 0	-0.001	-0.003	0	0	0	~ 0	-0.017
ErrSrc	0	0	0	-0.097	0	-0.003	0	~ 0	~ 0	-0.089	-0.048	-0.002	-0.004	-0.004	-0.002	0	0	~ 0	GlobFact -0.249

Table 112: Normalised Fisher information derivatives 1/I*dI/dX for the combination under consideration. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to its "current" value in the combination under consideration, and all normalized by the information I for the "current" values of correlations. They are computed for the "current" values of correlations (in this case: correlations in onionization 1st recipe). Color boxes indicate normalised derivatives greater than 0.05 (yellow), 0.10 (orange) and 0.15 (red). The last column and last row list information derivatives when the same rescaling factor is used for a given off-diagonal element or error source, which are equal to the sums of individual derivatives in each row and column, respectively.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	40.57	5.04	10.73	2.78	2.56	2.31	1.56
ALJ11	5.04	5.82	4.43	1.52	1.59	1.55	1.16
AJT11	10.73	4.43	19.86	2.00	1.91	1.83	1.39
CLL10	2.78	1.52	2.00	42.25	6.51	6.67	2.05
CLJ10	2.56	1.59	1.91	6.51	11.75	5.92	1.58
CLL11	2.31	1.55	1.83	6.67	5.92	8.96	1.92
CMJ11	1.56	1.16	1.39	2.05	1.58	1.92	2.41

Table 113: Full input covariance between measurements (summed over error sources). Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	16.00	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	4.41	0	0	0	0
CLL10	0	0	0	21.16	0	0	0
CLJ10	0	0	0	0	4.41	0	0
CLL11	0	0	0	0	0	1.44	0
CMJ11	0	0	0	0	0	0	0.16

Table 114: Partial input covariance between measurements. Error source #0: Stat. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0.16	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0.16

Table 115: Partial input covariance between measurements. Error source #1: iJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 116: Partial input covariance between measurements. Error source #2: aJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	2.56	1.96	0.81	0.81	1.21	0.49
ALJ11	2.56	2.56	1.96	0.72	0.72	0.88	0.49
AJT11	1.96	1.96	1.96	0.63	0.63	0.77	0.49
CLL10	0.81	0.72	0.63	0.81	0.81	0.81	0.49
CLJ10	0.81	0.72	0.63	0.81	0.81	0.81	0.49
CLL11	1.21	0.88	0.77	0.81	0.81	1.21	0.49
CMJ11	0.49	0.49	0.49	0.49	0.49	0.49	0.49

Table 117: Partial input covariance between measurements. Error source #3: bJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 118: Partial input covariance between measurements. Error source #4: cJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	4.41	0.49	4.41	0	0	0	0
ALJ11	0.49	0.49	0.49	0	0	0	0
AJT11	4.41	0.49	4.41	0	0	0	0
CLL10	0	0	0	4.41	4.41	4.00	0.04
CLJ10	0	0	0	4.41	4.41	4.00	0.04
CLL11	0	0	0	4.00	4.00	4.00	0.04
CMJ11	0	0	0	0.04	0.04	0.04	0.04

Table 119: Partial input covariance between measurements. Error source #5: dJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	10.89	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 120: Partial input covariance between measurements. Error source #6: rJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0.09	0	0.04	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0.04	0	0.04	0
CMJ11	0	0	0	0	0	0	0

Table 121: Partial input covariance between measurements. Error source #7: Lept. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.00	0.16	0.25	0.16	0	0.01	0
ALJ11	0.16	0.16	0.16	0.08	0	0.01	0
AJT11	0.25	0.16	0.25	0.10	0	0.01	0
CLL10	0.16	0.08	0.10	0.16	0	0.01	0
CLJ10	0	0	0	0	0	0	0
CLL11	0.01	0.01	0.01	0.01	0	0.01	0
CMJ11	0	0	0	0	0	0	0

Table 122: Partial input covariance between measurements. Error source #8: MC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	1.00	2.89	0.81	1.44	0.64	0.64
ALJ11	1.00	1.00	1.00	0.45	0.60	0.40	0.40
AJT11	2.89	1.00	2.89	0.77	1.02	0.64	0.64
CLL10	0.81	0.45	0.77	0.81	0.81	0.64	0.64
CLJ10	1.44	0.60	1.02	0.81	1.44	0.64	0.64
CLL11	0.64	0.40	0.64	0.64	0.64	0.64	0.64
CMJ11	0.64	0.40	0.64	0.64	0.64	0.64	0.64

Table 123: Partial input covariance between measurements. Error source #9: Rad. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.36	0.36	0.25	0.25	0.25	0.25
ALJ11	0.36	0.36	0.36	0.25	0.25	0.25	0.25
AJT11	0.36	0.36	0.36	0.25	0.25	0.25	0.25
CLL10	0.25	0.25	0.25	0.25	0.25	0.25	0.25
CLJ10	0.25	0.25	0.25	0.25	0.25	0.25	0.25
CLL11	0.25	0.25	0.25	0.25	0.25	0.25	0.25
CMJ11	0.25	0.25	0.25	0.25	0.25	0.25	0.25

Table 124: Partial input covariance between measurements. Error source #10: CR. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.25	0.01	0.25	0.25	0.01	0.16	0.01
ALJ11	0.01	0.01	0.01	0.01	0.01	0.01	0.01
AJT11	0.25	0.01	0.36	0.25	0.01	0.16	0.01
CLL10	0.25	0.01	0.25	0.25	0.01	0.16	0.01
CLJ10	0.01	0.01	0.01	0.01	0.01	0.01	0.01
CLL11	0.16	0.01	0.16	0.16	0.01	0.16	0.01
CMJ11	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Table 125: Partial input covariance between measurements. Error source #11: PDF. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.44	0.09	0.25	0	0	0	0
ALJ11	0.09	0.09	0.09	0	0	0	0
AJT11	0.25	0.09	0.25	0	0	0	0
CLL10	0	0	0	0.36	0.16	0.36	0.09
CLJ10	0	0	0	0.16	0.16	0.16	0.09
CLL11	0	0	0	0.36	0.16	0.49	0.09
CMJ11	0	0	0	0.09	0.09	0.09	0.09

Table 126: Partial input covariance between measurements. Error source #12: DTMO. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0.36	0.36	0	0	0	0
ALJ11	0.36	0.36	0.36	0	0	0	0
AJT11	0.36	0.36	0.36	0	0	0	0
CLL10	0	0	0	1.96	0.04	0.36	0.36
CLJ10	0	0	0	0.04	0.04	0.04	0.04
CLL11	0	0	0	0.36	0.04	0.36	0.36
CMJ11	0	0	0	0.36	0.04	0.36	0.36

Table 127: Partial input covariance between measurements. Error source #13: UE. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	3.24	0.01	0	0.01	0.04	0	0.01
ALJ11	0.01	0.01	0	0.01	0.01	0	0.01
AJT11	0	0	0	0	0	0	0
CLL10	0.01	0.01	0	0.01	0.01	0	0.01
CLJ10	0.04	0.01	0	0.01	0.04	0	0.01
CLL11	0	0	0	0	0	0	0
CMJ11	0.01	0.01	0	0.01	0.01	0	0.01

Table 128: Partial input covariance between measurements. Error source #14: BGMC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.25	0	0	0	0	0
AJT11	0	0	3.61	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0.16	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0

Table 129: Partial input covariance between measurements. Error source #15: BGDT. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.16	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	1.00	0	0	0	0
CLL10	0	0	0	0.09	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0.04

Table 130: Partial input covariance between measurements. Error source #16: Meth. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.49	0	0	0.49	0.01	0.04	0.16
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0.49	0	0	1.00	0.01	0.04	0.16
CLJ10	0.01	0	0	0.01	0.01	0.01	0.01
CLL11	0.04	0	0	0.04	0.01	0.04	0.04
CMJ11	0.16	0	0	0.16	0.01	0.04	0.16

Table 131: Partial input covariance between measurements. Error source #17: MHI. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

2.7 Zero correlations.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI
ALJ10	169.30 ± 6.37	2.79	2.79	2.79	2.79	4.00	0	0	2.50	0	2.10	0	0	1.00	2.50	0.60	0.50	1.20	0.60	1.80	0.60	0.40	0.70
ALJ11	174.50 ± 2.41	19.48	19.48	19.48	19.48	0.60	0.40	0	1.60	0	0.70	0	0	0.40	1.00	0.60	0.10	0.30	0.60	0.10	0.50	0.10	0
AJT11	174.90 ± 4.46	5.71	5.71	5.71	5.71	2.10	0	0	1.40	0	2.10	0	0	0.50	1.70	0.60	0.60	0.50	0.60	0	1.90	1.00	0
CLL10	175.50 ± 6.50	2.68	2.68	2.68	2.68	4.60	0	0	0.90	0	2.10	3.30	0.30	0.40	0.90	0.50	0.50	0.60	1.40	0.10	0	0.30	1.00
CLJ10	173.10 ± 3.43	9.65	9.65	9.65	9.65	2.10	0	0	0.90	0	2.10	0	0	0	1.20	0.50	0.10	0.40	0.20	0.20	0.40	0.10	0.10
CLL11	173.30 ± 2.99	12.65	12.65	12.65	12.65	1.20	0	0	1.10	0	2.00	0	0.20	0.10	0.80	0.50	0.40	0.70	0.60	0	0.40	0.40	0.20
CMJ11	172.60 ± 1.55	47.04	47.04	47.04	47.04	0.40	0.40	0	0.70	0	0.20	0	0	0	0.80	0.50	0.10	0.30	0.60	0.10	0	0.20	0.40
Correlations	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
BLUE mt	173.22 ± 1.06	100.00	100.00	100.00	100.00	0.39	0.20	0	0.49	0	0.39	0.09	0.03	0.09	0.47	0.28	0.08	0.19	0.32	0.07	0.16	0.12	0.19

Table 132: BLUE of the combination (χ^2/ndof= 1.09/6). For each input measurement i the following are listed: the central value weight CVW_i or λ_i, the intrinsic information weight IIW_i , the marginal information weight MIW_i, the relative importance RI_i. The intrinsic information weight $\mathrm{IIW}_{\mathrm{corr}}$ of correlations is also shown on a separate row.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

OffDiag & ErrSrc	Stat	iJES	aJES	bJES	cJES	dJES	rJES	Lept	MC	Rad	CR	PDF	DTMO	UE	BGMC	BGDT	Meth	MHI	OffDiag
ALJ11 / ALJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AJT11 / ALJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AJT11 / ALJ11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL10 / ALJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL10 / ALJ11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL10 / AJT11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLJ10 / ALJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLJ10 / ALJ11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLJ10 / AJT11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLJ10 / CLL10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL11 / ALJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL11 / ALJ11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL11 / AJT11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL11 / CLL10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLL11 / CLJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CMJ11 / ALJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CMJ11 / ALJ11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CMJ11 / AJT11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CMJ11 / CLL10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CMJ11 / CLJ10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CMJ11 / CLL11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ErrSrc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	GlobFact 0

Table 133: Normalised Fisher information derivatives 1/I*dI/dX for the combination under consideration. The derivatives in the table are computed with respect to scale factors X, representing the ratio of a given correlation to its "current" value in the combination under consideration, and all normalized by the information I for the "current" values of correlations. They are computed for the "current" values of correlations (in this case: zero correlations). Color boxes indicate normalised derivatives greater than 0.05 (yellow), 0.10 (orange) and 0.15 (red). The last column and last row list information derivatives when the same rescaling factor is used for a given off-diagonal element or error source, which are equal to the sums of individual derivatives in each row and column, respectively.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	40.57	0	0	0	0	0	0
ALJ11	0	5.82	0	0	0	0	0
AJT11	0	0	19.86	0	0	0	0
CLL10	0	0	0	42.25	0	0	0
CLJ10	0	0	0	0	11.75	0	0
CLL11	0	0	0	0	0	8.96	0
CMJ11	0	0	0	0	0	0	2.41

Table 134: Full input covariance between measurements (summed over error sources). Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	16.00	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	4.41	0	0	0	0
CLL10	0	0	0	21.16	0	0	0
CLJ10	0	0	0	0	4.41	0	0
CLL11	0	0	0	0	0	1.44	0
CMJ11	0	0	0	0	0	0	0.16

Table 135: Partial input covariance between measurements. Error source #0: Stat. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0.16	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0.16

Table 136: Partial input covariance between measurements. Error source #1: iJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 137: Partial input covariance between measurements. Error source #2: aJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	0	0	0	0	0	0
ALJ11	0	2.56	0	0	0	0	0
AJT11	0	0	1.96	0	0	0	0
CLL10	0	0	0	0.81	0	0	0
CLJ10	0	0	0	0	0.81	0	0
CLL11	0	0	0	0	0	1.21	0
CMJ11	0	0	0	0	0	0	0.49

Table 138: Partial input covariance between measurements. Error source #3: bJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 139: Partial input covariance between measurements. Error source #4: cJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	4.41	0	0	0	0	0	0
ALJ11	0	0.49	0	0	0	0	0
AJT11	0	0	4.41	0	0	0	0
CLL10	0	0	0	4.41	0	0	0
CLJ10	0	0	0	0	4.41	0	0
CLL11	0	0	0	0	0	4.00	0
CMJ11	0	0	0	0	0	0	0.04

Table 140: Partial input covariance between measurements. Error source #5: dJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	10.89	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0

Table 141: Partial input covariance between measurements. Error source #6: rJES. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0.09	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0.04	0
CMJ11	0	0	0	0	0	0	0

Table 142: Partial input covariance between measurements. Error source #7: Lept. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.00	0	0	0	0	0	0
ALJ11	0	0.16	0	0	0	0	0
AJT11	0	0	0.25	0	0	0	0
CLL10	0	0	0	0.16	0	0	0
CLJ10	0	0	0	0	0	0	0
CLL11	0	0	0	0	0	0.01	0
CMJ11	0	0	0	0	0	0	0

Table 143: Partial input covariance between measurements. Error source #8: MC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	6.25	0	0	0	0	0	0
ALJ11	0	1.00	0	0	0	0	0
AJT11	0	0	2.89	0	0	0	0
CLL10	0	0	0	0.81	0	0	0
CLJ10	0	0	0	0	1.44	0	0
CLL11	0	0	0	0	0	0.64	0
CMJ11	0	0	0	0	0	0	0.64

Table 144: Partial input covariance between measurements. Error source #9: Rad. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	0.36	0	0	0	0
CLL10	0	0	0	0.25	0	0	0
CLJ10	0	0	0	0	0.25	0	0
CLL11	0	0	0	0	0	0.25	0
CMJ11	0	0	0	0	0	0	0.25

Table 145: Partial input covariance between measurements. Error source #10: CR. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.25	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	0.36	0	0	0	0
CLL10	0	0	0	0.25	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0.01

Table 146: Partial input covariance between measurements. Error source #11: PDF. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	1.44	0	0	0	0	0	0
ALJ11	0	0.09	0	0	0	0	0
AJT11	0	0	0.25	0	0	0	0
CLL10	0	0	0	0.36	0	0	0
CLJ10	0	0	0	0	0.16	0	0
CLL11	0	0	0	0	0	0.49	0
CMJ11	0	0	0	0	0	0	0.09

Table 147: Partial input covariance between measurements. Error source #12: DTMO. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.36	0	0	0	0	0
AJT11	0	0	0.36	0	0	0	0
CLL10	0	0	0	1.96	0	0	0
CLJ10	0	0	0	0	0.04	0	0
CLL11	0	0	0	0	0	0.36	0
CMJ11	0	0	0	0	0	0	0.36

Table 148: Partial input covariance between measurements. Error source #13: UE. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	3.24	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	0.01	0	0	0
CLJ10	0	0	0	0	0.04	0	0
CLL11	0	0	0	0	0	0	0
CMJ11	0	0	0	0	0	0	0.01

Table 149: Partial input covariance between measurements. Error source #14: BGMC. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.36	0	0	0	0	0	0
ALJ11	0	0.25	0	0	0	0	0
AJT11	0	0	3.61	0	0	0	0
CLL10	0	0	0	0	0	0	0
CLJ10	0	0	0	0	0.16	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0

Table 150: Partial input covariance between measurements. Error source #15: BGDT. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.16	0	0	0	0	0	0
ALJ11	0	0.01	0	0	0	0	0
AJT11	0	0	1.00	0	0	0	0
CLL10	0	0	0	0.09	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.16	0
CMJ11	0	0	0	0	0	0	0.04

Table 151: Partial input covariance between measurements. Error source #16: Meth. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

	ALJ10	ALJ11	AJT11	CLL10	CLJ10	CLL11	CMJ11
ALJ10	0.49	0	0	0	0	0	0
ALJ11	0	0	0	0	0	0	0
AJT11	0	0	0	0	0	0	0
CLL10	0	0	0	1.00	0	0	0
CLJ10	0	0	0	0	0.01	0	0
CLL11	0	0	0	0	0	0.04	0
CMJ11	0	0	0	0	0	0	0.16

Table 152: Partial input covariance between measurements. Error source #17: MHI. Color boxes indicate covariances lower than nominal values by a factor up to 2 (green), up to 3 (cyan) or greater than 3 (blue).

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

Appendix A1. Input data.

```
#============================================================================
#==== BlueFin input data file ================================================
#============================================================================

# The file is expected to have the following format.
# Blank lines and lines with only empty spaces are ignored.
# Lines starting by '#' are reserved for comments and are ignored.
# Data lines are composed of fields separated by one or more empty spaces.
# Fields cannot contain empty spaces, with the exception of the title line.

# The next line must have 2 fields: 'TITLE' and the title of the
# BlueFin combination, which must be enclosed within double quotes
# and may contain only alphanumeric characters or spaces or hyphens.
TITLE "LHC top mass combination 2012"

# The next line must have 2 fields: 'NOBS' and the number of observables.
NOBS 1

# The next line must have 2 fields: 'NMEA' and the number of measurements.
NMEA 7

# The next line must have 2 fields: 'NERR' and the number of error sources.
NERR 18

# The next NERR+3 lines must have NMEA+1 fields in this format:
# - in the 1st line: 'MEANAME' followed by NMEA distinct measurement names
#   (measurement names may contain only alphanumeric characters or spaces);
# - in the 2nd line: 'OBSNAME' followed by the NMEA names (with NOBS distinct
#   values) of the observables measured by the corresponding measurements
#   (observable names may contain only alphanumeric characters or spaces
#   and should preferably be at most 3 characters long);
# - in the 3rd line: 'MEAVAL' followed by the NMEA measured central values;
# - in each of the last NERR lines: the error source name followed by the
#   NMEA partial errors for each measurement due to the given error source
#   (error source names may contain only alphanumeric characters or spaces).
MEANAME    ALJ10    ALJ11    AJT11    CLL10    CLJ10    CLL11    CMJ11
OBSNAME       mt       mt       mt       mt       mt       mt       mt
MEAVAL  169.3000 174.5000 174.9000 175.5000 173.1000 173.3000 172.6000
Stat      4.0000   0.6000   2.1000   4.6000   2.1000   1.2000   0.4000
iJES           0   0.4000        0        0        0        0   0.4000
aJES           0        0        0        0        0        0        0
bJES      2.5000   1.6000   1.4000   0.9000   0.9000   1.1000   0.7000
cJES           0        0        0        0        0        0        0
dJES      2.1000   0.7000   2.1000   2.1000   2.1000   2.0000   0.2000
rJES           0        0        0   3.3000        0        0        0
Lept           0        0        0   0.3000        0   0.2000        0
MC        1.0000   0.4000   0.5000   0.4000        0   0.1000        0
Rad       2.5000   1.0000   1.7000   0.9000   1.2000   0.8000   0.8000
CR        0.6000   0.6000   0.6000   0.5000   0.5000   0.5000   0.5000
PDF       0.5000   0.1000   0.6000   0.5000   0.1000   0.4000   0.1000
DTMO      1.2000   0.3000   0.5000   0.6000   0.4000   0.7000   0.3000
```

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.

```
UE         0.6000    0.6000    0.6000    1.4000    0.2000    0.6000    0.6000
BGMC       1.8000    0.1000         0    0.1000    0.2000         0    0.1000
BGDT       0.6000    0.5000    1.9000         0    0.4000    0.4000         0
Meth       0.4000    0.1000    1.0000    0.3000    0.1000    0.4000    0.2000
MHI        0.7000    0.0000         0    1.0000    0.1000    0.2000    0.4000

# The next NMEA*(NMEA-1)/2+1 rows must have NERR+2 fields in this format:
# - in the 1st line: 'CMEA1' 'CMEA2' (correlations between 2 measurements)
#   followed by the NERR error source names in the same order used above;
# - in each of the NMEA*(NMEA-1)/2 last lines: the names of two distinct
#   measurements followed by the NERR correlations between the partial
#   errors on the two measurements due to corresponding error source.
#   Measurements must appear in the same order listed above.
CMEA1 CMEA2 Stat iJES aJES bJES cJES dJES rJES Lept   MC  Rad   CR  PDF DTMO   UE BGMC BGDT Meth  MHI
ALJ10 ALJ11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
ALJ10 AJT11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
ALJ10 CLL10    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
ALJ10 CLJ10    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
ALJ10 CLL11    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
ALJ10 CMJ11    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
ALJ11 AJT11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
ALJ11 CLL10    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
ALJ11 CLJ10    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
ALJ11 CLL11    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
ALJ11 CMJ11    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
AJT11 CLL10    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
AJT11 CLJ10    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
AJT11 CLL11    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
AJT11 CMJ11    0    0    0  0.5    0    0    0    0  0.5  0.5    1    1    0    0    1    0    0    1
CLL10 CLJ10    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
CLL10 CLL11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
CLL10 CMJ11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
CLJ10 CLL11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
CLJ10 CMJ11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
CLL11 CMJ11    0    0    0    1    0    1    0    1    1    1    1    1    1    1    1    0    0    1
```

Input data file: `lhc2012.bfin`.

WARNING! This is an example where inputs are taken from Table 4 in CMS PAS TOP-12-001. The output results differ because of rounding errors in those inputs.