Eur. Phys. J. C (2020) 80:1092
https://doi.org/10.1140/epjc/s10052-020-08541-3

THE EUROPEAN PHYSICAL JOURNAL C

Erratum

Erratum to: Measurements of top-quark pair differential and double-differential cross-sections in the ℓ+jets channel with pp collisions at $\sqrt{s} = 13$ TeV using the ATLAS detector [Eur. Phys. J. C 79 (2019) 1028]

ATLAS Collaboration[⋆]

CERN, 1211 Geneva 23, Switzerland

Received: 8 October 2020 / Accepted: 11 October 2020 / Published online: 26 November 2020

Erratum to: Eur. Phys. J. C (2019) 79:1028
https://doi.org/10.1140/epjc/s10052-019-7525-6

Corrections for five figures and six tables are noted for the paper, which do not affect the conclusions reported:

- in the double-differential cross-sections at particle level in the resolved topology as a function of $|\Delta\phi(t\bar{t})|$, $|y^{t,\mathrm{had}}|$ and $|y^{t\bar{t}}|$ as a function of the number of additional jets, in certain cases the values of $|y^{t,\mathrm{had}}|$ and $|y^{t\bar{t}}|$ were shifted by 0.5 and the values of $|\Delta\phi(t\bar{t})|$ were shifted by $0.14 \cdot i$, where i is the number of additional jets. This issue affects Fig. 34 and Tables 11 and 12;
- the differential cross-section at particle level in the boosted topology as a function of the number of small-R jets clustered inside a top-quark candidate was actually evaluated as a function of the number of small-R jets clustered inside the large-R jet with higher transverse momentum. As a consequence, the definition of the multiplicity of additional small-R jets referred to the large-R jet with higher transfer momentum rather than to the top-quark candidate. This issue affects the single-differential cross-section as a function of N^{subjets} and $N^{\mathrm{extrajets}}$ and the double-differential cross-sections as a function of $p_{\mathrm{T}}^{t,\mathrm{had}}$, $m^{t\bar{t}}$ and $p_{\mathrm{T}}^{t\bar{t}}$ in bins of $N^{\mathrm{extrajets}}$. This issue affects Figs. 42, 50, 51 and 52 and Tables 13, 14, 15 and 16.

Funded by SCOAP3.

The original article can be found online at https://doi.org/10.1140/epjc/s10052-019-7525-6.

⋆ e-mail: atlas.publications@cern.ch

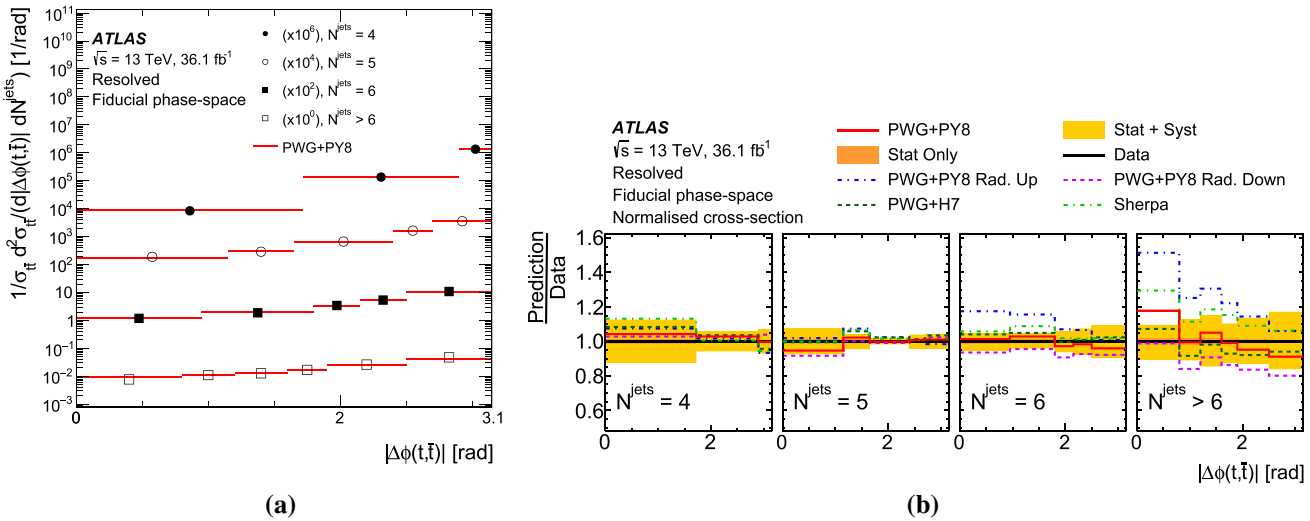


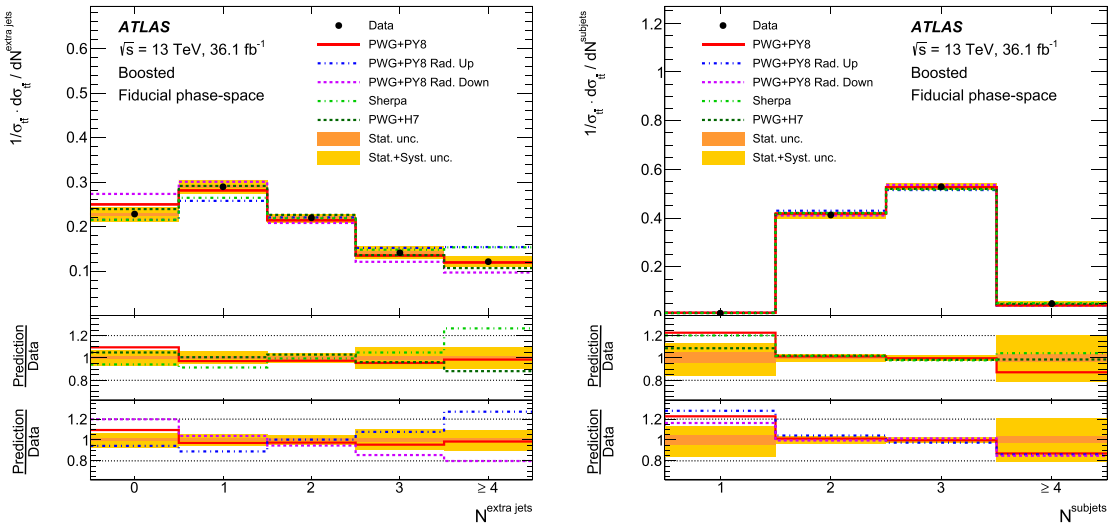
Fig. 34 **a** Particle-level normalised differential cross-section as a function of $|\Delta\phi(t,\bar{t})|$ in bins of the jet multiplicity in the resolved topology compared with the prediction obtained with the POWHEG+PYTHIA8 MC generator. Data points are placed at the centre of each bin. **b** The ratio of the measured cross-section to different Monte Carlo predictions. The bands represent the statistical and total uncertainty in the data

Table 11 Comparison of the measured particle-level normalised double-differential cross-sections in the resolved topology with the predictions from several MC generators. For each prediction a χ^2 and a p value are calculated using the covariance matrix of the measured spectrum. The NDF is equal to the number of bins in the distribution minus one

Observable	PWG + PY8		PWG + PY8 Rad. Up		PWG + PY8 Rad. Down		PWG + H7		SHERPA 2.2.1	
	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value
$H_{\mathrm{T}}^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	9.7/19	0.96	57.9/19	< 0.01	19.4/19	0.43	48.7/19	< 0.01	27.4/19	0.10
$\lvert p_{\mathrm{out}}^{t,\mathrm{had}} \rvert$ vs $N^{\mathrm{extrajets}}$	10.8/9	0.29	89.2/9	< 0.01	31.9/9	< 0.01	32.6/9	< 0.01	19.2/9	0.02
$\chi^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	37.6/19	< 0.01	31.6/19	0.03	88.9/19	< 0.01	84.8/19	< 0.01	23.7/19	0.21
$\lvert \Delta\phi(t,\bar{t}) \rvert$ vs $N^{\mathrm{extrajets}}$	41.4/18	< 0.01	214.0/18	< 0.01	41.3/18	< 0.01	65.5/18	< 0.01	54.0/18	< 0.01
$\lvert y^{t,\mathrm{had}} \rvert$ vs $N^{\mathrm{extrajets}}$	16.1/12	0.19	14.9/12	0.25	39.4/12	< 0.01	67.5/12	< 0.01	9.8/12	0.63
$\lvert y^{t,\mathrm{had}} \rvert$ vs $p_{\mathrm{T}}^{t,\mathrm{had}}$	14.9/12	0.25	11.9/12	0.45	18.1/12	0.11	8.4/12	0.75	9.4/12	0.67
$p_{\mathrm{T}}^{t,\mathrm{had}}$ vs $\lvert p_{\mathrm{out}}^{t,\mathrm{had}} \rvert$	10.5/12	0.57	74.5/12	< 0.01	25.3/12	0.01	13.4/12	0.34	22.4/12	0.03
$p_{\mathrm{T}}^{t,\mathrm{had}}$ vs $N^{\mathrm{extrajets}}$	14.2/16	0.58	45.7/16	< 0.01	37.3/16	< 0.01	67.5/16	< 0.01	13.9/16	0.60
$\lvert y^{t\bar{t}} \rvert$ vs $N^{\mathrm{extrajets}}$	8.2/12	0.77	11.8/12	0.47	28.0/12	< 0.01	63.0/12	< 0.01	12.6/12	0.40
$\lvert y^{t\bar{t}} \rvert$ vs $m^{t\bar{t}}$	18.0/14	0.21	12.0/14	0.60	23.1/14	0.06	13.2/14	0.51	14.8/14	0.40
$\lvert y^{t\bar{t}} \rvert$ vs $p_{\mathrm{T}}^{t\bar{t}}$	28.5/12	< 0.01	149.0/12	< 0.01	23.2/12	0.03	31.8/12	< 0.01	70.7/12	< 0.01
$m^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	29.1/16	0.02	25.5/16	0.06	49.6/16	< 0.01	24.6/16	0.08	11.5/16	0.78
$m^{t\bar{t}}$ vs $p_{\mathrm{T}}^{t,\mathrm{had}}$	58.9/31	< 0.01	51.4/31	0.01	92.3/31	< 0.01	35.6/31	0.26	44.8/31	0.05
$m^{t\bar{t}}$ vs $p_{\mathrm{T}}^{t\bar{t}}$	43.6/21	< 0.01	260.0/21	< 0.01	47.0/21	< 0.01	44.7/21	< 0.01	149.0/21	< 0.01
$p_{\mathrm{T}}^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	69.1/19	< 0.01	283.0/19	< 0.01	58.5/19	< 0.01	82.8/19	< 0.01	102.0/19	< 0.01
$p_{\mathrm{T}}^{t\bar{t}}$ vs $p_{\mathrm{T}}^{t,\mathrm{had}}$	39.2/19	< 0.01	282.0/19	< 0.01	51.5/19	< 0.01	55.8/19	< 0.01	137.0/19	< 0.01

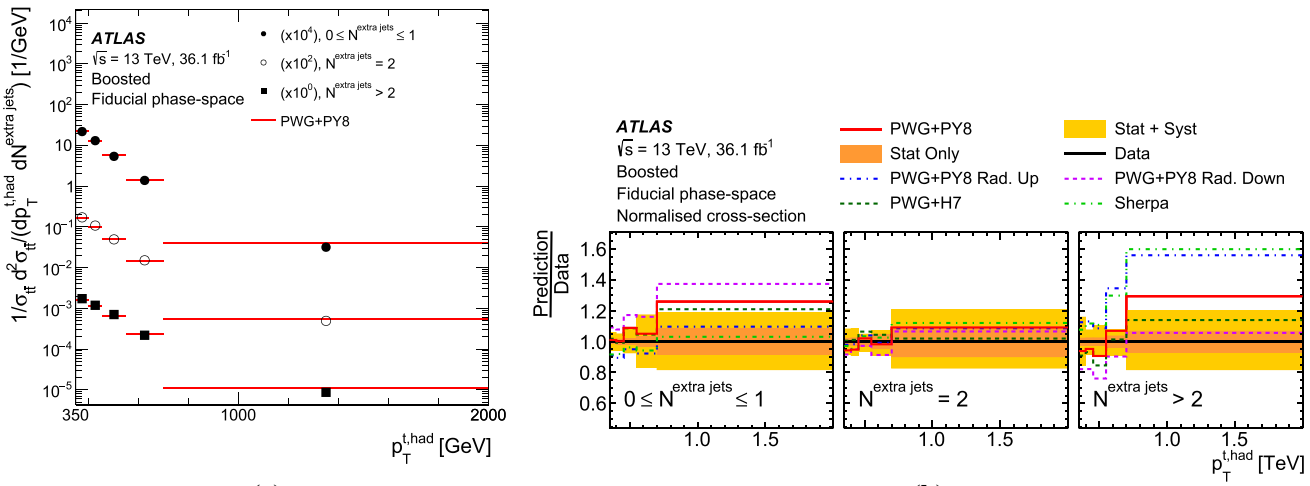
Table 12 Comparison of the measured particle-level absolute double-differential cross-sections in the resolved topology with the predictions from several MC generators. For each prediction a χ^2 and a p value are calculated using the covariance matrix of the measured spectrum. The NDF is equal to the number of bins in the distribution

Observable	PWG + PY8		PWG + PY8 Rad. Up		PWG + PY8 Rad. Down		PWG + H7		SHERPA 2.2.1	
	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value
$H_{\mathrm{T}}^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	13.8/20	0.84	72.9/20	< 0.01	31.3/20	0.05	56.6/20	< 0.01	40.5/20	< 0.01
$\lvert p_{\mathrm{out}}^{t,\mathrm{had}}\rvert$ vs $N^{\mathrm{extrajets}}$	16.3/10	0.09	165.0/10	< 0.01	15.7/10	0.11	35.6/10	< 0.01	50.9/10	< 0.01
$\chi^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	44.4/20	< 0.01	60.3/20	< 0.01	88.3/20	< 0.01	62.2/20	< 0.01	24.6/20	0.21
$\lvert\Delta\phi(t,\bar{t})\rvert$ vs $N^{\mathrm{extrajets}}$	47.5/19	< 0.01	221.0/19	< 0.01	48.0/19	< 0.01	57.8/19	< 0.01	62.7/19	< 0.01
$\lvert y^{t,\mathrm{had}}\rvert$ vs $N^{\mathrm{extrajets}}$	15.8/13	0.26	37.3/13	< 0.01	33.3/13	< 0.01	52.1/13	< 0.01	15.2/13	0.29
$\lvert y^{t,\mathrm{had}}\rvert$ vs $p_{\mathrm{T}}^{t,\mathrm{had}}$	13.3/13	0.42	12.9/13	0.45	15.6/13	0.27	8.7/13	0.80	9.8/13	0.71
$p_{\mathrm{T}}^{t,\mathrm{had}}$ vs $\lvert p_{\mathrm{out}}^{t,\mathrm{had}}\rvert$	8.6/13	0.80	79.6/13	< 0.01	28.8/13	< 0.01	9.7/13	0.72	16.0/13	0.25
$p_{\mathrm{T}}^{t,\mathrm{had}}$ vs $N^{\mathrm{extrajets}}$	19.3/17	0.31	59.5/17	< 0.01	43.3/17	< 0.01	65.3/17	< 0.01	24.7/17	0.10
$\lvert y^{t\bar{t}}\rvert$ vs $N^{\mathrm{extrajets}}$	7.4/13	0.88	19.1/13	0.12	21.1/13	0.07	47.9/13	< 0.01	17.8/13	0.16
$\lvert y^{t\bar{t}}\rvert$ vs $m^{t\bar{t}}$	22.3/15	0.10	15.0/15	0.45	29.8/15	0.01	15.8/15	0.40	19.1/15	0.21
$\lvert y^{t\bar{t}}\rvert$ vs $p_{\mathrm{T}}^{t\bar{t}}$	32.7/13	< 0.01	143.0/13	< 0.01	21.2/13	0.07	36.8/13	< 0.01	81.4/13	< 0.01
$m^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	28.0/17	0.04	29.0/17	0.03	49.2/17	< 0.01	36.3/17	< 0.01	14.0/17	0.67
$m^{t\bar{t}}$ vs $p_{\mathrm{T}}^{t,\mathrm{had}}$	56.2/32	< 0.01	59.9/32	< 0.01	79.9/32	< 0.01	31.9/32	0.47	48.5/32	0.03
$m^{t\bar{t}}$ vs $p_{\mathrm{T}}^{t\bar{t}}$	49.0/22	< 0.01	310.0/22	< 0.01	53.3/22	< 0.01	55.1/22	< 0.01	175.0/22	< 0.01
$p_{\mathrm{T}}^{t\bar{t}}$ vs $N^{\mathrm{extrajets}}$	93.2/20	< 0.01	412.0/20	< 0.01	51.9/20	< 0.01	91.8/20	< 0.01	163.0/20	< 0.01
$p_{\mathrm{T}}^{t\bar{t}}$ vs $p_{\mathrm{T}}^{t,\mathrm{had}}$	38.6/20	< 0.01	294.0/20	< 0.01	66.5/20	< 0.01	46.1/20	< 0.01	128.0/20	< 0.01



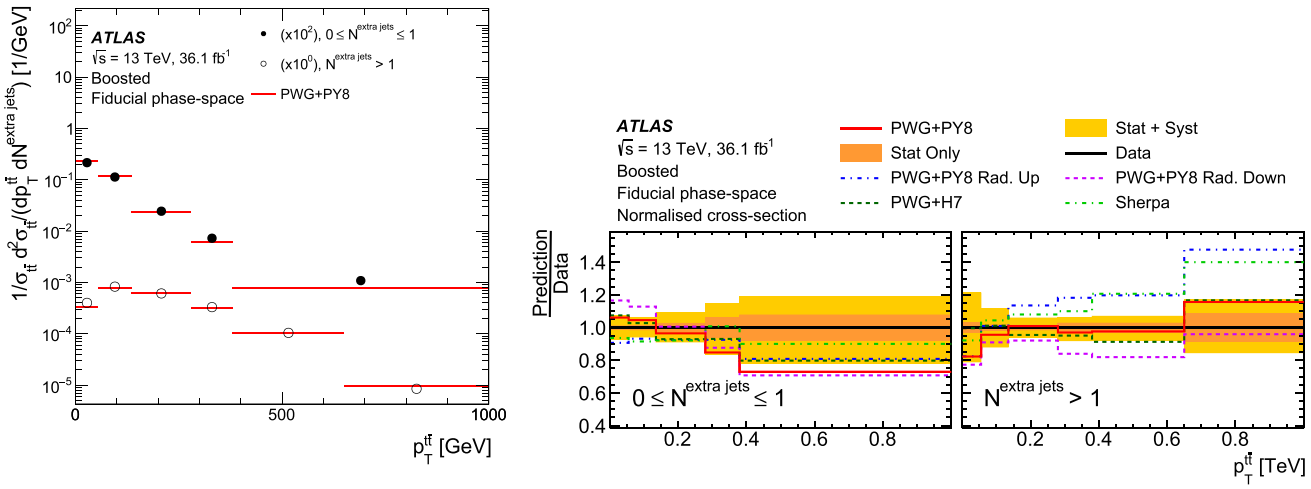
(a) (b)

Fig. 42 Particle-level normalised differential cross-sections as a function of **a** the number of additional jets and **b** the number of small-R jets composing the hadronically decaying top quark in the boosted topology, compared with different Monte Carlo predictions. The bands represent the statistical and total uncertainty in the data. Data points are placed at the centre of each bin. The lower panel shows the ratios of the simulations to data



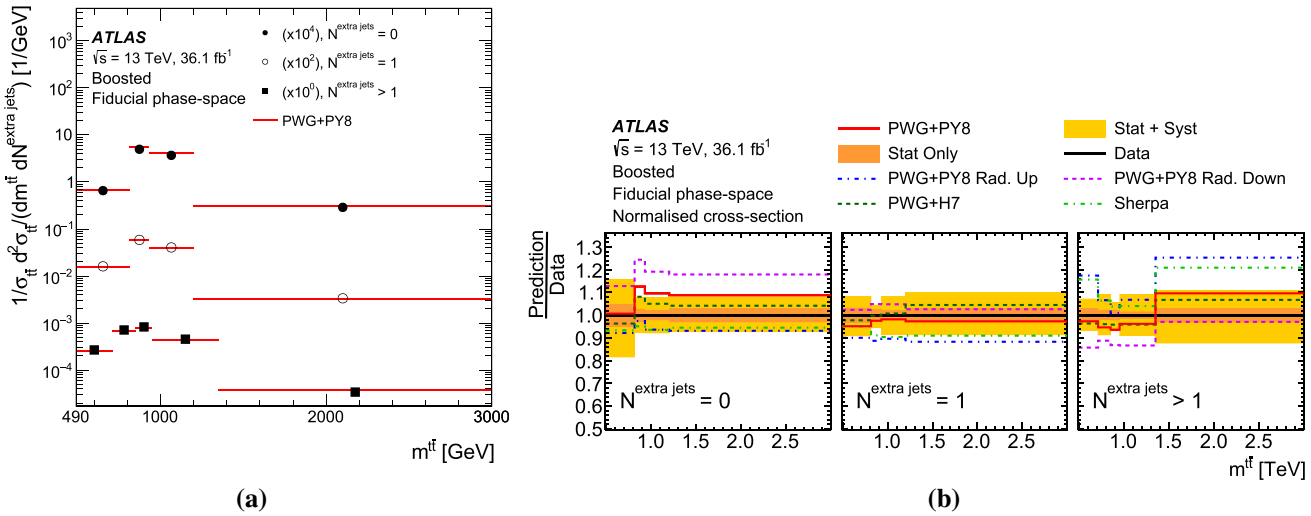
(a) (b)

Fig. 50 **a** Particle-level normalised differential cross-section as a function of the p_{T} of the hadronically decaying top quark in bins of the number of additional jets in the boosted topology compared with the prediction obtained with the POWHEG+ PYTHIA8 MC generator. Data points are placed at the centre of each bin. **b** The ratio of the measured cross-section to different Monte Carlo predictions. The bands represent the statistical and total uncertainty in the data



(a) **(b)**

Fig. 51 **a** Particle-level normalised differential cross-section as a function of the p_{T} of the $t\bar{t}$ system in bins of the number of additional jets in the boosted topology compared with the prediction obtained with the POWHEG+ PYTHIA8 MC generator. Data points are placed at the centre of each bin. **b** The ratio of the measured cross-section to different Monte Carlo predictions. The bands represent the statistical and total uncertainty in the data



(a) **(b)**

Fig. 52 **a** Particle-level normalised differential cross-section as a function of the mass of the $t\bar{t}$ system in bins of the number of additional jets in the boosted topology compared with the prediction obtained with the POWHEG+ PYTHIA8 MC generator. Data points are placed at the centre of each bin. **b** The ratio of the measured cross-section to different Monte Carlo predictions

Table 13 Comparison of the measured particle-level normalised single-differential cross-sections in the boosted topology with the predictions from several MC generators. For each prediction a χ^2 and a p value are calculated using the covariance matrix of the measured spectrum. The NDF is equal to the number of bins in the distribution minus one

Observable	PWG + PY8		PWG + PY8 Rad. Up		PWG + PY8 Rad. Down		PWG + H7		SHERPA 2.2.1	
	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value
$p_{\mathrm{T}}^{t,1}$	6.2/7	0.51	10.3/7	0.17	2.8/7	0.90	2.4/7	0.93	11.1/7	0.14
$p_{\mathrm{T}}^{t,2}$	4.0/6	0.68	3.9/6	0.69	4.1/6	0.66	3.2/6	0.78	4.4/6	0.62
$H_{\mathrm{T}}^{t\bar{t}}$	9.0/9	0.44	7.1/9	0.62	24.1/9	< 0.01	10.4/9	0.32	7.8/9	0.56
$\left\lvert p_{\mathrm{out}}^{t,\mathrm{lep}} \right\rvert$	7.1/6	0.31	17.2/6	< 0.01	43.3/6	< 0.01	25.4/6	< 0.01	2.9/6	0.82
$\chi^{t\bar{t}}$	3.5/6	0.74	1.0/6	0.98	18.4/6	< 0.01	3.2/6	0.79	8.9/6	0.18
$N^{\mathrm{extrajets}}$	6.8/4	0.15	16.7/4	< 0.01	16.5/4	< 0.01	3.4/4	0.49	8.6/4	0.07
$p_{\mathrm{T}}^{t,\mathrm{had}}$	6.2/7	0.52	11.0/7	0.14	3.2/7	0.86	3.5/7	0.83	10.6/7	0.16
N^{subjets}	2.6/3	0.45	4.1/3	0.25	1.9/3	0.60	0.7/3	0.88	3.6/3	0.31
$\lvert y^{t,\mathrm{had}} \rvert$	0.6/3	0.90	0.5/3	0.93	1.5/3	0.68	0.6/3	0.90	1.2/3	0.75
$\lvert y^{t\bar{t}} \rvert$	3.2/3	0.36	1.9/3	0.60	4.5/3	0.21	5.2/3	0.16	4.2/3	0.24
$m^{t\bar{t}}$	7.5/9	0.59	11.8/9	0.23	16.2/9	0.06	8.1/9	0.52	8.3/9	0.50
$p_{\mathrm{T}}^{t\bar{t}}$	3.5/5	0.63	25.6/5	< 0.01	35.7/5	< 0.01	9.8/5	0.08	19.7/5	< 0.01

Table 14 Comparison of the measured particle-level absolute single-differential cross-sections in the boosted topology with the predictions from several MC generators. For each prediction a χ^2 and a p value are calculated using the covariance matrix of the measured spectrum. The NDF is equal to the number of bins in the distribution

Observable	PWG + PY8		PWG + PY8 Rad. Up		PWG + PY8 Rad. Down		PWG + H7		SHERPA 2.2.1	
	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value
$p_{\mathrm{T}}^{t,1}$	7.8/8	0.46	14.1/8	0.08	3.9/8	0.86	2.8/8	0.95	12.9/8	0.11
$p_{\mathrm{T}}^{t,2}$	5.3/7	0.62	6.6/7	0.47	5.7/7	0.58	5.6/7	0.59	4.8/7	0.68
$H_{\mathrm{T}}^{t\bar{t}}$	10.9/10	0.37	10.5/10	0.40	15.5/10	0.12	7.0/10	0.72	11.4/10	0.33
$\left\lvert p_{\mathrm{out}}^{t,\mathrm{lep}} \right\rvert$	24.2/7	< 0.01	21.7/7	< 0.01	72.0/7	< 0.01	31.9/7	< 0.01	9.9/7	0.19
$\chi^{t\bar{t}}$	12.9/7	0.07	9.2/7	0.24	32.0/7	< 0.01	4.5/7	0.72	17.2/7	0.02
$N^{\mathrm{extrajets}}$	34.6/5	< 0.01	40.4/5	< 0.01	51.7/5	< 0.01	5.7/5	0.34	34.6/5	< 0.01
$p_{\mathrm{T}}^{t,\mathrm{had}}$	9.2/8	0.33	16.0/8	0.04	5.9/8	0.66	4.5/8	0.81	12.0/8	0.15
N^{subjets}	12.5/4	0.01	15.2/4	< 0.01	12.0/4	0.02	0.6/4	0.97	6.0/4	0.20
$\lvert y^{t,\mathrm{had}} \rvert$	4.0/4	0.41	5.8/4	0.21	3.9/4	0.42	2.3/4	0.68	10.6/4	0.03
$\lvert y^{t\bar{t}} \rvert$	8.8/4	0.07	10.3/4	0.04	8.1/4	0.09	6.7/4	0.15	10.5/4	0.03
$m^{t\bar{t}}$	16.5/10	0.09	28.5/10	< 0.01	24.3/10	< 0.01	11.2/10	0.34	25.5/10	< 0.01
$p_{\mathrm{T}}^{t\bar{t}}$	21.0/6	< 0.01	59.3/6	< 0.01	107.0/6	< 0.01	27.8/6	< 0.01	38.4/6	< 0.01

Table 15 Comparison of the measured particle-level normalised double-differential cross-sections in the boosted topology with the predictions from several MC generators. For each prediction a χ^2 and a p value are calculated using the covariance matrix of the measured spectrum. The NDF is equal to the number of bins in the distribution minus one

Observable	PWG + PY8		PWG + PY8 Rad. Up		PWG + PY8 Rad. Down		PWG + H7		SHERPA 2.2.1	
	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value
$m^{t\bar{t}}$ vs $N^{\text{extrajets}}$	16.9/12	0.15	34.1/12	< 0.01	31.4/12	< 0.01	6.3/12	0.90	21.0/12	0.05
$p_{\text{T}}^{t\bar{t}}$ vs $N^{\text{extrajets}}$	14.8/10	0.14	52.2/10	< 0.01	48.3/10	< 0.01	14.1/10	0.17	32.2/10	< 0.01
$m^{t\bar{t}}$ vs $H_{\text{T}}^{t\bar{t}}$	7.3/8	0.51	16.5/8	0.04	15.7/8	0.05	7.1/8	0.53	20.8/8	< 0.01
$m^{t\bar{t}}$ vs $\lvert y^{t\bar{t}}\rvert$	4.8/13	0.98	11.5/13	0.57	15.9/13	0.26	5.8/13	0.95	16.4/13	0.23
$m^{t\bar{t}}$ vs $p_{\text{T}}^{t\bar{t}}$	7.8/12	0.80	34.6/12	< 0.01	40.6/12	< 0.01	18.6/12	0.10	18.0/12	0.12
$p_{\text{T}}^{t,\text{had}}$ vs $\lvert y^{t}\rvert$	8.6/9	0.47	12.7/9	0.17	6.5/9	0.69	5.7/9	0.77	12.5/9	0.18
$p_{\text{T}}^{t,\text{had}}$ vs $\lvert y^{t\bar{t}}\rvert$	10.0/9	0.35	11.6/9	0.24	8.5/9	0.48	8.9/9	0.45	13.5/9	0.14
$p_{\text{T}}^{t,\text{had}}$ vs $N^{\text{extrajets}}$	16.9/14	0.26	40.1/14	< 0.01	30.8/14	< 0.01	20.6/14	0.11	31.5/14	< 0.01
$p_{\text{T}}^{t,\text{had}}$ vs $m^{t\bar{t}}$	6.9/7	0.44	18.7/7	< 0.01	8.9/7	0.26	4.4/7	0.73	25.6/7	< 0.01
$p_{\text{T}}^{t,\text{had}}$ vs $p_{\text{T}}^{t\bar{t}}$	16.1/13	0.24	50.4/13	< 0.01	63.2/13	< 0.01	26.0/13	0.02	33.9/13	< 0.01

Table 16 Comparison of the measured particle-level absolute double-differential cross-sections in the boosted topology with the predictions from several MC generators. For each prediction a χ^2 and a p value are calculated using the covariance matrix of the measured spectrum. The NDF is equal to the number of bins in the distribution

Observable	PWG + PY8		PWG + PY8 Rad. Up		PWG + PY8 Rad. Down		PWG + H7		SHERPA 2.2.1	
	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value	χ^2/NDF	p value
$m^{t\bar{t}}$ vs $N^{\text{extrajets}}$	40.5/13	< 0.01	56.0/13	< 0.01	73.8/13	< 0.01	9.6/13	0.73	38.2/13	< 0.01
$p_{\text{T}}^{t\bar{t}}$ vs $N^{\text{extrajets}}$	44.5/11	< 0.01	103.0/11	< 0.01	119.0/11	< 0.01	27.3/11	< 0.01	59.1/11	< 0.01
$m^{t\bar{t}}$ vs $H_{\text{T}}^{t\bar{t}}$	12.7/9	0.17	17.8/9	0.04	25.3/9	< 0.01	11.8/9	0.22	24.4/9	< 0.01
$m^{t\bar{t}}$ vs $\lvert y^{t\bar{t}}\rvert$	18.4/14	0.19	17.3/14	0.24	36.5/14	< 0.01	14.2/14	0.43	22.1/14	0.08
$m^{t\bar{t}}$ vs $p_{\text{T}}^{t\bar{t}}$	15.5/13	0.28	70.1/13	< 0.01	86.4/13	< 0.01	27.8/13	< 0.01	28.8/13	< 0.01
$p_{\text{T}}^{t,\text{had}}$ vs $\lvert y^{t}\rvert$	11.2/10	0.34	15.9/10	0.10	7.3/10	0.70	6.7/10	0.75	15.3/10	0.12
$p_{\text{T}}^{t,\text{had}}$ vs $\lvert y^{t\bar{t}}\rvert$	9.7/10	0.47	10.6/10	0.39	8.1/10	0.62	8.5/10	0.58	13.4/10	0.20
$p_{\text{T}}^{t,\text{had}}$ vs $N^{\text{extrajets}}$	31.3/15	< 0.01	61.1/15	< 0.01	55.1/15	< 0.01	26.2/15	0.04	52.2/15	< 0.01
$p_{\text{T}}^{t,\text{had}}$ vs $m^{t\bar{t}}$	14.8/8	0.06	29.8/8	< 0.01	16.4/8	0.04	4.4/8	0.82	32.6/8	< 0.01
$p_{\text{T}}^{t,\text{had}}$ vs $p_{\text{T}}^{t\bar{t}}$	24.6/14	0.04	70.1/14	< 0.01	94.3/14	< 0.01	30.0/14	< 0.01	48.7/14	< 0.01

ATLAS Collaboration

G. Aad[101], B. Abbott[128], D. C. Abbott[102], A. Abed Abud[70a,70b], K. Abeling[53], D. K. Abhayasinghe[93], S. H. Abidi[167], O. S. AbouZeid[40], N. L. Abraham[156], H. Abramowicz[161], H. Abreu[160], Y. Abulaiti[6], B. S. Acharya[66a,66b,o], B. Achkar[53], S. Adachi[163], L. Adam[99], C. Adam Bourdarios[5], L. Adamczyk[83a], L. Adamek[167], J. Adelman[120], M. Adersberger[113], A. Adiguzel[12c], S. Adorni[54], T. Adye[144], A. A. Affolder[146], Y. Afik[160], C. Agapopoulou[132], M. N. Agaras[38], A. Aggarwal[118], C. Agheorghiesei[27c], J. A. Aguilar-Saavedra[140a,140f,ai], F. Ahmadov[79], W. S. Ahmed[103], X. Ai[18], G. Aielli[73a,73b], S. Akatsuka[85], T. P. A. Åkesson[96], E. Akilli[54], A. V. Akimov[110], K. Al Khoury[132], G. L. Alberghi[23a,23b], J. Albert[176], M. J. Alconada Verzini[161], S. Alderweireldt[36], M. Aleksa[36], I. N. Aleksandrov[79], C. Alexa[27b], D. Alexandre[19], T. Alexopoulos[10], A. Alfonsi[119], F. Alfonsi[23a,23b], M. Alhroob[128], B. Ali[142], G. Alimonti[68a], J. Alison[37], S. P. Alkire[148], C. Allaire[132], B. M. M. Allbrooke[156], B. W. Allen[131], P. P. Allport[21], A. Aloisio[69a,69b], A. Alonso[40], F. Alonso[88], C. Alpigiani[148], A. A. Alshehri[57], M. Alvarez Estevez[98], D. Álvarez Piqueras[174], M. G. Alviggi[69a,69b], Y. Amaral Coutinho[80b], A. Ambler[103], L. Ambroz[135], C. Amelung[26], D. Amidei[105], S. P. Amor Dos Santos[140a], S. Amoroso[46], C. S. Amrouche[54], F. An[78], C. Anastopoulos[149], N. Andari[145], T. Andeen[11], C. F. Anders[61b], J. K. Anders[20], A. Andreazza[68a,68b], V. Andrei[61a], C. R. Anelli[176], S. Angelidakis[38], A. Angerami[39], A. V. Anisenkov[121a,121b], A. Annovi[71a], C. Antel[61a], M. T. Anthony[149], M. Antonelli[51], D. J. A. Antrim[171], F. Anulli[72a], M. Aoki[81], J. A. Aparisi Pozo[174], L. Aperio Bella[15a], G. Arabidze[106], J. P. Araque[140a], V. Araujo Ferraz[80b], R. Araujo Pereira[80b], C. Arcangeletti[51], A. T. H. Arce[49], F. A. Arduh[88], J.-F. Arguin[109], S. Argyropoulos[77], J.-H. Arling[46], A. J. Armbruster[36], A. Armstrong[171], O. Arnaez[167], H. Arnold[119], Z. P. Arrubarrena Tame[113], A. Artamonov[123,*], G. Artoni[135], S. Artz[99], S. Asai[163], N. Asbah[59], E. M. Asimakopoulou[172], L. Asquith[156], J. Assahsah[35d], K. Assamagan[29], R. Astalos[28a], R. J. Atkin[33a], M. Atkinson[173], N. B. Atlay[19], H. Atmani[132], K. Augsten[142], G. Avolio[36], R. Avramidou[60a], M. K. Ayoub[15a], A. M. Azoulay[168b], G. Azuelos[109,ax], H. Bachacou[145], K. Bachas[67a,67b], M. Backes[135], F. Backman[45a,45b], P. Bagnaia[72a,72b], M. Bahmani[84], H. Bahrasemani[152], A. J. Bailey[174], V. R. Bailey[173], J. T. Baines[144], M. Bajic[40], C. Bakalis[10], O. K. Baker[183], P. J. Bakker[119], D. Bakshi Gupta[8], S. Balaji[157], E. M. Baldin[121a,121b], P. Balek[180], F. Balli[145], W. K. Balunas[135], J. Balz[99], E. Banas[84], A. Bandyopadhyay[24], Sw. Banerjee[181,j], A. A. E. Bannoura[182], L. Barak[161], W. M. Barbe[38], E. L. Barberio[104], D. Barberis[55a,55b], M. Barbero[101], G. Barbour[94], T. Barillari[114], M.-S. Barisits[36], J. Barkeloo[131], T. Barklow[153], R. Barnea[160], S. L. Barnes[60c], B. M. Barnett[144], R. M. Barnett[18], Z. Barnovska-Blenessy[60a], P. Baron[130], A. Baroncelli[60a], G. Barone[29], A. J. Barr[135], L. Barranco Navarro[45a,45b], F. Barreiro[98], J. Barreiro Guimarães da Costa[15a], S. Barsov[138], R. Bartoldus[153], G. Bartolini[101], A. E. Barton[89], P. Bartos[28a], A. Basalaev[46], A. Bassalat[132,aq], M. J. Basso[167], R. L. Bates[57], S. Batlamous[35e], J. R. Batley[32], B. Batool[151], M. Battaglia[146], M. Bauce[72a,72b], F. Bauer[145], K. T. Bauer[171], H. S. Bawa[31,m], J. B. Beacham[49], T. Beau[136], P. H. Beauchemin[170], F. Becherer[52], P. Bechtle[24], H. C. Beck[53], H. P. Beck[20,s], K. Becker[52], M. Becker[99], C. Becot[46], A. Beddall[12d], A. J. Beddall[12a], V. A. Bednyakov[79], M. Bedognetti[119], C. P. Bee[155], T. A. Beermann[76], M. Begalli[80b], M. Begel[29], A. Behera[155], J. K. Behr[46], F. Beisiegel[24], A. S. Bell[94], G. Bella[161], L. Bellagamba[23b], A. Bellerive[34], P. Bellos[9], K. Beloborodov[121a,121b], K. Belotskiy[111], N. L. Belyaev[111], D. Benchekroun[35a], N. Benekos[10], Y. Benhammou[161], D. P. Benjamin[6], M. Benoit[54], J. R. Bensinger[26], S. Bentvelsen[119], L. Beresford[135], M. Beretta[51], D. Berge[46], E. Bergeaas Kuutmann[172], N. Berger[5], B. Bergmann[142], L. J. Bergsten[26], J. Beringer[18], S. Berlendis[7], N. R. Bernard[102], G. Bernardi[136], C. Bernius[153], F. U. Bernlochner[24], T. Berry[93], P. Berta[99], C. Bertella[15a], I. A. Bertram[89], O. Bessidskaia Bylund[182], N. Besson[145], A. Bethani[100], S. Bethke[114], A. Betti[24], A. J. Bevan[92], J. Beyer[114], D. S. Bhattacharya[177], R. Bi[139], R. M. Bianchi[139], O. Biebel[113], D. Biedermann[19], R. Bielski[36], K. Bierwagen[99], N. V. Biesuz[71a,71b], M. Biglietti[74a], T. R. V. Billoud[109], M. Bindi[53], A. Bingul[12d], C. Bini[72a,72b], S. Biondi[23a,23b], M. Birman[180], T. Bisanz[53], J. P. Biswal[161], D. Biswas[181,j], A. Bitadze[100], C. Bittrich[48], K. Bjørke[134], K. M. Black[25], T. Blazek[28a], I. Bloch[46], C. Blocker[26], A. Blue[57], U. Blumenschein[92], G. J. Bobbink[119], V. S. Bobrovnikov[121a,121b], S. S. Bocchetta[96], A. Bocci[49], D. Boerner[46], D. Bogavac[14], A. G. Bogdanchikov[121a,121b], C. Bohm[45a], V. Boisvert[93], P. Bokan[53,172], T. Bold[83a], A. S. Boldyrev[112], A. E. Bolz[61b], M. Bomben[136], M. Bona[92], J. S. Bonilla[131], M. Boonekamp[145], H. M. Borecka-Bielska[90], A. Borisov[122], G. Borissov[89], J. Bortfeldt[36], D. Bortoletto[135], D. Boscherini[23b], M. Bosman[14], J. D. Bossio Sola[103], K. Bouaouda[35a], J. Boudreau[139], E. V. Bouhova-Thacker[89], D. Boumediene[38], S. K. Boutle[57], A. Boveia[126], J. Boyd[36], D. Boye[33b,ar], I. R. Boyko[79], A. J. Bozson[93], J. Bracinik[21], N. Brahimi[101], G. Brandt[182], O. Brandt[32], F. Braren[46], B. Brau[102], J. E. Brau[131], W. D. Breaden Madden[57], K. Brendlinger[46], L. Brenner[46], R. Brenner[172], S. Bressler[180], B. Brickwedde[99], D. L. Briglin[21], D. Britton[57], D. Britzger[114], I. Brock[24], R. Brock[106], G. Brooijmans[39], W. K. Brooks[147c], E. Brost[120], J. H. Broughton[21], P. A. Bruckman de Renstrom[84], D. Bruncko[28b], A. Bruni[23b], G. Bruni[23b], L. S. Bruni[119], S. Bruno[73a,73b], B. H. Brunt[32], M. Bruschi[23b], N. Bruscino[139], P. Bryant[37], L. Bryngemark[96], T. Buanes[17], Q. Buat[36], P. Buchholz[151], A. G. Buckley[57], I. A. Budagov[79], M. K. Bugge[134], F. Bührer[52],

O. Bulekov[111], T. J. Burch[120], S. Burdin[90], C. D. Burgard[119], A. M. Burger[129], B. Burghgrave[8], J. T. P. Burr[46], C. D. Burton[11], J. C. Burzynski[102], V. Büscher[99], E. Buschmann[53], P. J. Bussey[57], J. M. Butler[25], C. M. Buttar[57], J. M. Butterworth[94], P. Butti[36], W. Buttinger[36], C. J. Buxo Vazquez[106], A. Buzatu[158], A. R. Buzykaev[121a,121b], G. Cabras[23a,23b], S. Cabrera Urbán[174], D. Caforio[56], H. Cai[173], V. M. M. Cairo[153], O. Cakir[4a], N. Calace[36], P. Calafiura[18], A. Calandri[101], G. Calderini[136], P. Calfayan[65], G. Callea[57], L. P. Caloba[80b], S. Calvente Lopez[98], D. Calvet[38], S. Calvet[38], T. P. Calvet[155], M. Calvetti[71a,71b], R. Camacho Toro[136], S. Camarda[36], D. Camarero Munoz[98], P. Camarri[73a,73b], D. Cameron[134], R. Caminal Armadans[102], C. Camincher[36], S. Campana[36], M. Campanelli[94], A. Camplani[40], A. Campoverde[151], V. Canale[69a,69b], A. Canesse[103], M. Cano Bret[60c], J. Cantero[129], T. Cao[161], Y. Cao[173], M. D. M. Capeans Garrido[36], M. Capua[41a,41b], R. Cardarelli[73a], F. Cardillo[149], G. Carducci[41a,41b], I. Carli[143], T. Carli[36], G. Carlino[69a], B. T. Carlson[139], L. Carminati[68a,68b], R. M. D. Carney[45a,45b], S. Caron[118], E. Carquin[147c], S. Carrá[46], J. W. S. Carter[167], M. P. Casado[14,e], A. F. Casha[167], D. W. Casper[171], R. Castelijn[119], F. L. Castillo[174], V. Castillo Gimenez[174], N. F. Castro[140a,140e], A. Catinaccio[36], J. R. Catmore[134], A. Cattai[36], J. Caudron[24], V. Cavaliere[29], E. Cavallaro[14], M. Cavalli-Sforza[14], V. Cavasinni[71a,71b], E. Celebi[12b], F. Ceradini[74a,74b], L. Cerda Alberich[174], K. Cerny[130], A. S. Cerqueira[80a], A. Cerri[156], L. Cerrito[73a,73b], F. Cerutti[18], A. Cervelli[23a,23b], S. A. Cetin[12b], Z. Chadi[35a], D. Chakraborty[120], S. K. Chan[59], W. S. Chan[119], W. Y. Chan[90], J. D. Chapman[32], B. Chargeishvili[159b], D. G. Charlton[21], T. P. Charman[92], C. C. Chau[34], S. Che[126], S. Chekanov[6], S. V. Chekulaev[168a], G. A. Chelkov[79,aw], M. A. Chelstowska[36], B. Chen[78], C. Chen[60a], C. H. Chen[78], H. Chen[29], J. Chen[60a], J. Chen[39], S. Chen[137], S. J. Chen[15c], X. Chen[15b,av], Y. Chen[82], Y.-H. Chen[46], H. C. Cheng[63a], H. J. Cheng[15a,15d], A. Cheplakov[79], E. Cheremushkina[122], R. Cherkaoui El Moursli[35e], E. Cheu[7], K. Cheung[64], T. J. A. Chevalérias[145], L. Chevalier[145], V. Chiarella[51], G. Chiarelli[71a], G. Chiodini[67a], A. S. Chisholm[21], A. Chitan[27b], I. Chiu[163], Y. H. Chiu[176], M. V. Chizhov[79], K. Choi[65], A. R. Chomont[72a,72b], S. Chouridou[162], Y. S. Chow[119], M. C. Chu[63a], X. Chu[15a], J. Chudoba[141], A. J. Chuinard[103], J. J. Chwastowski[84], L. Chytka[130], D. Cieri[114], K. M. Ciesla[84], D. Cinca[47], V. Cindro[91], I. A. Cioară[27b], A. Ciocio[18], F. Cirotto[69a,69b], Z. H. Citron[180,k], M. Citterio[68a], D. A. Ciubotaru[27b], B. M. Ciungu[167], A. Clark[54], M. R. Clark[39], P. J. Clark[50], C. Clement[45a,45b], Y. Coadou[101], M. Cobal[66a,66c], A. Coccaro[55b], J. Cochran[78], H. Cohen[161], A. E. C. Coimbra[36], L. Colasurdo[118], B. Cole[39], A. P. Colijn[119], J. Collot[58], P. Conde Muiño[140a,f], E. Coniavitis[52], S. H. Connell[33b], I. A. Connelly[57], S. Constantinescu[27b], F. Conventi[69a,ay], A. M. Cooper-Sarkar[135], F. Cormier[175], K. J. R. Cormier[167], L. D. Corpe[94], M. Corradi[72a,72b], E. E. Corrigan[96], F. Corriveau[103,ae], A. Cortes-Gonzalez[36], M. J. Costa[174], F. Costanza[5], D. Costanzo[149], G. Cowan[93], J. W. Cowley[32], J. Crane[100], K. Cranmer[124], S. J. Crawley[57], R. A. Creager[137], S. Crépé-Renaudin[58], F. Crescioli[136], M. Cristinziani[24], V. Croft[119], G. Crosetti[41a,41b], A. Cueto[5], T. Cuhadar Donszelmann[149], A. R. Cukierman[153], S. Czekierda[84], P. Czodrowski[36], M. J. Da Cunha Sargedas De Sousa[60b], J. V. Da Fonseca Pinto[80b], C. Da Via[100], W. Dabrowski[83a], T. Dado[28a], S. Dahbi[35e], T. Dai[105], C. Dallapiccola[102], M. Dam[40], G. D'amen[29], V. D'Amico[74a,74b], J. Damp[99], J. R. Dandoy[137], M. F. Daneri[30], N. P. Dang[181,j], N. S. Dann[100], M. Danninger[175], V. Dao[36], G. Darbo[55b], O. Dartsi[5], A. Dattagupta[131], T. Daubney[46], S. D'Auria[68a,68b], W. Davey[24], C. David[46], T. Davidek[143], D. R. Davis[49], I. Dawson[149], K. De[8], R. De Asmundis[69a], M. De Beurs[119], S. De Castro[23a,23b], S. De Cecco[72a,72b], N. De Groot[118], P. de Jong[119], H. De la Torre[106], A. De Maria[15c], D. De Pedis[72a], A. De Salvo[72a], U. De Sanctis[73a,73b], M. De Santis[73a,73b], A. De Santo[156], K. De Vasconcelos Corga[101], J. B. De Vivie De Regie[132], C. Debenedetti[146], D. V. Dedovich[79], A. M. Deiana[42], M. Del Gaudio[41a,41b], J. Del Peso[98], Y. Delabat Diaz[46], D. Delgove[132], F. Deliot[145,r], C. M. Delitzsch[7], M. Della Pietra[69a,69b], D. Della Volpe[54], A. Dell'Acqua[36], L. Dell'Asta[73a,73b], M. Delmastro[5], C. Delporte[132], P. A. Delsart[58], D. A. DeMarco[167], S. Demers[183], M. Demichev[79], G. Demontigny[109], S. P. Denisov[122], D. Denysiuk[119], L. D'Eramo[136], D. Derendarz[84], J. E. Derkaoui[35d], F. Derue[136], P. Dervan[90], K. Desch[24], C. Deterre[46], K. Dette[167], C. Deutsch[24], M. R. Devesa[30], P. O. Deviveiros[36], A. Dewhurst[144], F. A. Di Bello[54], A. Di Ciaccio[73a,73b], L. Di Ciaccio[5], W. K. Di Clemente[137], C. Di Donato[69a,69b], A. Di Girolamo[36], G. Di Gregorio[71a,71b], B. Di Micco[74a,74b], R. Di Nardo[102], K. F. Di Petrillo[59], R. Di Sipio[167], D. Di Valentino[34], C. Diaconu[101], F. A. Dias[40], T. Dias Do Vale[140a], M. A. Diaz[147a], J. Dickinson[18], E. B. Diehl[105], J. Dietrich[19], S. Díez Cornell[46], A. Dimitrievska[18], W. Ding[15b], J. Dingfelder[24], F. Dittus[36], F. Djama[101], T. Djobava[159b], J. I. Djuvsland[17], M. A. B. Do Vale[80c], M. Dobre[27b], D. Dodsworth[26], C. Doglioni[96], J. Dolejsi[143], Z. Dolezal[143], M. Donadelli[80d], B. Dong[60c], J. Donini[38], A. D'onofrio[92], M. D'Onofrio[90], J. Dopke[144], A. Doria[69a], M. T. Dova[88], A. T. Doyle[57], E. Drechsler[152], E. Dreyer[152], T. Dreyer[53], A. S. Drobac[170], D. Du[60b], Y. Duan[60b], F. Dubinin[110], M. Dubovsky[28a], A. Dubreuil[54], E. Duchovni[180], G. Duckeck[113], A. Ducourthial[136], O. A. Ducu[109], D. Duda[114], A. Dudarev[36], A. C. Dudder[99], E. M. Duffield[18], L. Duflot[132], M. Dührssen[36], C. Dülsen[182], M. Dumancic[180], A. E. Dumitriu[27b], A. K. Duncan[57], M. Dunford[61a], A. Duperrin[101], H. Duran Yildiz[4a], M. Düren[56], A. Durglishvili[159b], D. Duschinger[48], B. Dutta[46], D. Duvnjak[1], G. I. Dyckes[137], M. Dyndal[36], S. Dysch[100], B. S. Dziedzic[84], K. M. Ecker[114], R. C. Edgar[105], M. G. Eggleston[49], T. Eifert[36], G. Eigen[17], K. Einsweiler[18], T. Ekelof[172], H. El Jarrari[35e], M. El Kacimi[35c],

R. El Kosseifi[101], V. Ellajosyula[172], M. Ellert[172], F. Ellinghaus[182], A. A. Elliot[92], N. Ellis[36], J. Elmsheuser[29], M. Elsing[36], D. Emeliyanov[144], A. Emerman[39], Y. Enari[163], M. B. Epland[49], J. Erdmann[47], A. Ereditato[20], M. Errenst[36], M. Escalier[132], C. Escobar[174], O. Estrada Pastor[174], E. Etzion[161], H. Evans[65], A. Ezhilov[138], F. Fabbri[57], L. Fabbri[23a,23b], V. Fabiani[118], G. Facini[94], R. M. Faisca Rodrigues Pereira[140a], R. M. Fakhrutdinov[122], S. Falciano[72a], P. J. Falke[5], S. Falke[5], J. Faltova[143], Y. Fang[15a], Y. Fang[15a], G. Fanourakis[44], M. Fanti[68a,68b], M. Faraj[66a,66c,u], A. Farbin[8], A. Farilla[74a], E. M. Farina[70a,70b], T. Farooque[106], S. Farrell[18], S. M. Farrington[50], P. Farthouat[36], F. Fassi[35e], P. Fassnacht[36], D. Fassouliotis[9], M. Faucci Giannelli[50], W. J. Fawcett[32], L. Fayard[132], O. L. Fedin[138,p], W. Fedorko[175], M. Feickert[42], L. Feligioni[101], A. Fell[149], C. Feng[60b], E. J. Feng[36], M. Feng[49], M. J. Fenton[57], A. B. Fenyuk[122], J. Ferrando[46], A. Ferrante[173], A. Ferrari[172], P. Ferrari[119], R. Ferrari[70a], D. E. Ferreira de Lima[61b], A. Ferrer[174], D. Ferrere[54], C. Ferretti[105], F. Fiedler[99], A. Filipčič[91], F. Filthaut[118], K. D. Finelli[25], M. C. N. Fiolhais[140a,140c,a], L. Fiorini[174], F. Fischer[113], W. C. Fisher[106], I. Fleck[151], P. Fleischmann[105], R. R. M. Fletcher[137], T. Flick[182], B. M. Flierl[113], L. Flores[137], L. R. Flores Castillo[63a], F. M. Follega[75a,75b], N. Fomin[17], J. H. Foo[167], G. T. Forcolin[75a,75b], A. Formica[145], F. A. Förster[14], A. C. Forti[100], A. G. Foster[21], M. G. Foti[135], D. Fournier[132], H. Fox[89], P. Francavilla[71a,71b], S. Francescato[72a,72b], M. Franchini[23a,23b], S. Franchino[61a], D. Francis[36], L. Franconi[20], M. Franklin[59], A. N. Fray[92], P. M. Freeman[21], B. Freund[109], W. S. Freund[80b], E. M. Freundlich[47], D. C. Frizzell[128], D. Froidevaux[36], J. A. Frost[135], C. Fukunaga[164], E. Fullana Torregrosa[174], E. Fumagalli[55a,55b], T. Fusayasu[115], J. Fuster[174], A. Gabrielli[23a,23b], A. Gabrielli[18], G. P. Gach[83a], S. Gadatsch[54], P. Gadow[114], G. Gagliardi[55a,55b], L. G. Gagnon[109], C. Galea[27b], B. Galhardo[140a], G. E. Gallardo[135], E. J. Gallas[135], B. J. Gallop[144], G. Galster[40], R. Gamboa Goni[92], K. K. Gan[126], S. Ganguly[180], J. Gao[60a], Y. Gao[50], Y. S. Gao[31,m], C. García[174], J. E. García Navarro[174], J. A. García Pascual[15a], C. Garcia-Argos[52], M. Garcia-Sciveres[18], R. W. Gardner[37], N. Garelli[153], S. Gargiulo[52], V. Garonne[134], A. Gaudiello[55a,55b], G. Gaudio[70a], I. L. Gavrilenko[110], A. Gavrilyuk[123], C. Gay[175], G. Gaycken[46], E. N. Gazis[10], A. A. Geanta[27b], C. M. Gee[146], C. N. P. Gee[144], J. Geisen[53], M. Geisen[99], M. P. Geisler[61a], C. Gemme[55b], M. H. Genest[58], C. Geng[105], S. Gentile[72a,72b], S. George[93], T. Geralis[44], L. O. Gerlach[53], P. Gessinger-Befurt[99], G. Gessner[47], S. Ghasemi[151], M. Ghasemi Bostanabad[176], A. Ghosh[132], A. Ghosh[77], B. Giacobbe[23b], S. Giagu[72a,72b], N. Giangiacomi[23a,23b], P. Giannetti[71a], A. Giannini[69a,69b], G. Giannini[14], S. M. Gibson[93], M. Gignac[146], D. Gillberg[34], G. Gilles[182], D. M. Gingrich[3,ax], M. P. Giordani[66a,66c], F. M. Giorgi[23b], P. F. Giraud[145], G. Giugliarelli[66a,66c], D. Giugni[68a], F. Giuli[73a,73b], S. Gkaitatzis[162], I. Gkialas[9,h], E. L. Gkougkousis[14], P. Gkountoumis[10], L. K. Gladilin[112], C. Glasman[98], J. Glatzer[14], P. C. F. Glaysher[46], A. Glazov[46], G. R. Gledhill[131], M. Goblirsch-Kolb[26], D. Godin[109], S. Goldfarb[104], T. Golling[54], D. Golubkov[122], A. Gomes[140a,140b], R. Goncalves Gama[53], R. Gonçalo[140a,140b], G. Gonella[52], L. Gonella[21], A. Gongadze[79], F. Gonnella[21], J. L. Gonski[59], S. González de la Hoz[174], S. Gonzalez-Sevilla[54], G. R. Gonzalvo Rodriguez[174], L. Goossens[36], P. A. Gorbounov[123], H. A. Gordon[29], B. Gorini[36], E. Gorini[67a,67b], A. Gorišek[91], A. T. Goshaw[49], M. I. Gostkin[79], C. A. Gottardo[118], M. Gouighri[35b], D. Goujdami[35c], A. G. Goussiou[148], N. Govender[33b], C. Goy[5], E. Gozani[160], I. Grabowska-Bold[83a], E. C. Graham[90], J. Gramling[171], E. Gramstad[134], S. Grancagnolo[19], M. Grandi[156], V. Gratchev[138], P. M. Gravila[27f], F. G. Gravili[67a,67b], C. Gray[57], H. M. Gray[18], C. Grefe[24], K. Gregersen[96], I. M. Gregor[46], P. Grenier[153], K. Grevtsov[46], C. Grieco[14], N. A. Grieser[128], J. Griffiths[8], A. A. Grillo[146], K. Grimm[31,l], S. Grinstein[14,z], J.-F. Grivaz[132], S. Groh[99], E. Gross[180], J. Grosse-Knetter[53], Z. J. Grout[94], C. Grud[105], A. Grummer[117], L. Guan[105], W. Guan[181], J. Guenther[36], A. Guerguichon[132], J. G. R. Guerrero Rojas[174], F. Guescini[114], D. Guest[171], R. Gugel[52], T. Guillemin[5], S. Guindon[36], U. Gul[57], J. Guo[60c], W. Guo[105], Y. Guo[60a,t], Z. Guo[101], R. Gupta[46], S. Gurbuz[12c], G. Gustavino[128], M. Guth[52], P. Gutierrez[128], C. Gutschow[94], C. Guyot[145], C. Gwenlan[135], C. B. Gwilliam[90], A. Haas[124], C. Haber[18], H. K. Hadavand[8], N. Haddad[35e], A. Hadef[60a], S. Hageböck[36], M. Haleem[177], J. Haley[129], G. Halladjian[106], G. D. Hallewell[101], K. Hamacher[182], P. Hamal[130], K. Hamano[176], H. Hamdaoui[35e], G. N. Hamity[149], K. Han[60a,ak], L. Han[60a], S. Han[15a,15d], Y. F. Han[167], K. Hanagaki[81,x], M. Hance[146], D. M. Handl[113], B. Haney[137], R. Hankache[136], E. Hansen[96], J. B. Hansen[40], J. D. Hansen[40], M. C. Hansen[24], P. H. Hansen[40], E. C. Hanson[100], K. Hara[169], T. Harenberg[182], S. Harkusha[107], P. F. Harrison[178], N. M. Hartmann[113], Y. Hasegawa[150], A. Hasib[50], S. Hassani[145], S. Haug[20], R. Hauser[106], L. B. Havener[39], M. Havranek[142], C. M. Hawkes[21], R. J. Hawkings[36], D. Hayden[106], C. Hayes[155], R. L. Hayes[175], C. P. Hays[135], J. M. Hays[92], H. S. Hayward[90], S. J. Haywood[144], F. He[60a], M. P. Heath[50], V. Hedberg[96], L. Heelan[8], S. Heer[24], K. K. Heidegger[52], W. D. Heidorn[78], J. Heilman[34], S. Heim[46], T. Heim[18], B. Heinemann[46,as], J. J. Heinrich[131], L. Heinrich[36], C. Heinz[56], J. Hejbal[141], L. Helary[61b], A. Held[175], S. Hellesund[134], C. M. Helling[146], S. Hellman[45a,45b], C. Helsens[36], R. C. W. Henderson[89], Y. Heng[181], S. Henkelmann[175], A. M. Henriques Correia[36], G. H. Herbert[19], H. Herde[26], V. Herget[177], Y. Hernández Jiménez[33c], H. Herr[99], M. G. Herrmann[113], T. Herrmann[48], G. Herten[52], R. Hertenberger[113], L. Hervas[36], T. C. Herwig[137], G. G. Hesketh[94], N. P. Hessey[168a], A. Higashida[163], S. Higashino[81], E. Higón-Rodriguez[174], K. Hildebrand[37], E. Hill[176], J. C. Hill[32], K. K. Hill[29], K. H. Hiller[46], S. J. Hillier[21], M. Hils[48], I. Hinchliffe[18], F. Hinterkeuser[24], M. Hirose[133], S. Hirose[52], D. Hirschbuehl[182], B. Hiti[91], O. Hladik[141], D. R. Hlaluku[33c], X. Hoad[50], J. Hobbs[155], N. Hod[180], M. C. Hodgkinson[149], A. Hoecker[36], F. Hoenig[113],

D. Hohn[52], D. Hohov[132], T. R. Holmes[37], M. Holzbock[113], L. B. A. H. Hommels[32], S. Honda[169], T. M. Hong[139], J. C. Honig[52], A. Hönle[114], B. H. Hooberman[173], W. H. Hopkins[6], Y. Horii[116], P. Horn[48], L. A. Horyn[37], S. Hou[158], A. Hoummada[35a], J. Howarth[100], J. Hoya[88], M. Hrabovsky[130], J. Hrdinka[76], I. Hristova[19], J. Hrivnac[132], A. Hrynevich[108], T. Hryn'ova[5], P. J. Hsu[64], S.-C. Hsu[148], Q. Hu[29], S. Hu[60c], Y. F. Hu[15a], D. P. Huang[94], Y. Huang[60a], Y. Huang[15a], Z. Hubacek[142], F. Hubaut[101], M. Huebner[24], F. Huegging[24], T. B. Huffman[135], M. Huhtinen[36], R. F. H. Hunter[34], P. Huo[155], A. M. Hupe[34], N. Huseynov[79,ag], J. Huston[106], J. Huth[59], R. Hyneman[105], S. Hyrych[28a], G. Iacobucci[54], G. Iakovidis[29], I. Ibragimov[151], L. Iconomidou-Fayard[132], Z. Idrissi[35e], P. Iengo[36], R. Ignazzi[40], O. Igonkina[119,ab,*], R. Iguchi[163], T. Iizawa[54], Y. Ikegami[81], M. Ikeno[81], D. Iliadis[162], N. Ilic[118,167,ae], F. Iltzsche[48], G. Introzzi[70a,70b], M. Iodice[74a], K. Iordanidou[168a], V. Ippolito[72a,72b], M. F. Isacson[172], M. Ishino[163], W. Islam[129], C. Issever[135], S. Istin[160], F. Ito[169], J. M. Iturbe Ponce[63a], R. Iuppa[75a,75b], A. Ivina[180], H. Iwasaki[81], J. M. Izen[43], V. Izzo[69a], P. Jacka[141], P. Jackson[1], R. M. Jacobs[24], B. P. Jaeger[152], V. Jain[2], G. Jäkel[182], K. B. Jakobi[99], K. Jakobs[52], S. Jakobsen[76], T. Jakoubek[141], J. Jamieson[57], K. W. Janas[83a], R. Jansky[54], J. Janssen[24], M. Janus[53], P. A. Janus[83a], G. Jarlskog[96], N. Javadov[79,ag], T. Javůrek[36], M. Javurkova[52], F. Jeanneau[145], L. Jeanty[131], J. Jejelava[159a,ah], A. Jelinskas[178], P. Jenni[52,b], J. Jeong[46], N. Jeong[46], S. Jézéquel[5], H. Ji[181], J. Jia[155], H. Jiang[78], Y. Jiang[60a], Z. Jiang[153,q], S. Jiggins[52], F. A. Jimenez Morales[38], J. Jimenez Pena[114], S. Jin[15c], A. Jinaru[27b], O. Jinnouchi[165], H. Jivan[33c], P. Johansson[149], K. A. Johns[7], C. A. Johnson[65], K. Jon-And[45a,45b], R. W. L. Jones[89], S. D. Jones[156], S. Jones[7], T. J. Jones[90], J. Jongmanns[61a], P. M. Jorge[140a], J. Jovicevic[36], X. Ju[18], J. J. Junggeburth[114], A. Juste Rozas[14,z], A. Kaczmarska[84], M. Kado[72a,72b], H. Kagan[126], M. Kagan[153], C. Kahra[99], T. Kaji[179], E. Kajomovitz[160], C. W. Kalderon[96], A. Kaluza[99], A. Kamenshchikov[122], M. Kaneda[163], L. Kanjir[91], Y. Kano[163], V. A. Kantserov[111], J. Kanzaki[81], L. S. Kaplan[181], D. Kar[33c], K. Karava[135], M. J. Kareem[168b], S. N. Karpov[79], Z. M. Karpova[79], V. Kartvelishvili[89], A. N. Karyukhin[122], L. Kashif[181], R. D. Kass[126], A. Kastanas[45a,45b], C. Kato[60c,60d], J. Katzy[46], K. Kawade[150], K. Kawagoe[87], T. Kawaguchi[116], T. Kawamoto[163], G. Kawamura[53], E. F. Kay[176], V. F. Kazanin[121a,121b], R. Keeler[176], R. Kehoe[42], J. S. Keller[34], E. Kellermann[96], D. Kelsey[156], J. J. Kempster[21], J. Kendrick[21], O. Kepka[141], S. Kersten[182], B. P. Kerševan[91], S. Ketabchi Haghighat[167], M. Khader[173], F. Khalil-Zada[13], M. Khandoga[145], A. Khanov[129], A. G. Kharlamov[121a,121b], T. Kharlamova[121a,121b], E. E. Khoda[175], A. Khodinov[166], T. J. Khoo[54], E. Khramov[79], J. Khubua[159b], S. Kido[82], M. Kiehn[54], C. R. Kilby[93], Y. K. Kim[37], N. Kimura[94], O. M. Kind[19], B. T. King[90,*], D. Kirchmeier[48], J. Kirk[144], A. E. Kiryunin[114], T. Kishimoto[163], D. P. Kisliuk[167], V. Kitali[46], O. Kivernyk[5], T. Klapdor-Kleingrothaus[52], M. Klassen[61a], M. H. Klein[105], M. Klein[90], U. Klein[90], K. Kleinknecht[99], P. Klimek[120], A. Klimentov[29], T. Klingl[24], T. Klioutchnikova[36], F. F. Klitzner[113], P. Kluit[119], S. Kluth[114], E. Kneringer[76], E. B. F. G. Knoops[101], A. Knue[52], D. Kobayashi[87], T. Kobayashi[163], M. Kobel[48], M. Kocian[153], P. Kodys[143], P. T. Koenig[24], T. Koffas[34], N. M. Köhler[36], T. Koi[153], M. Kolb[61b], I. Koletsou[5], T. Komarek[130], T. Kondo[81], N. Kondrashova[60c], K. Köneke[52], A. C. König[118], T. Kono[125], R. Konoplich[124,an], V. Konstantinides[94], N. Konstantinidis[94], B. Konya[96], R. Kopeliansky[65], S. Koperny[83a], K. Korcyl[84], K. Kordas[162], G. Koren[161], A. Korn[94], I. Korolkov[14], E. V. Korolkova[149], N. Korotkova[112], O. Kortner[114], S. Kortner[114], T. Kosek[143], V. V. Kostyukhin[166], A. Kotsokechagia[132], A. Kotwal[49], A. Koulouris[10], A. Kourkoumeli-Charalampidi[70a,70b], C. Kourkoumelis[9], E. Kourlitis[149], V. Kouskoura[29], A. B. Kowalewska[84], R. Kowalewski[176], C. Kozakai[163], W. Kozanecki[145], A. S. Kozhin[122], V. A. Kramarenko[112], G. Kramberger[91], D. Krasnopevtsev[60a], M. W. Krasny[136], A. Krasznahorkay[36], D. Krauss[114], J. A. Kremer[83a], J. Kretzschmar[90], P. Krieger[167], F. Krieter[113], A. Krishnan[61b], K. Krizka[18], K. Kroeninger[47], H. Kroha[114], J. Kroll[141], J. Kroll[137], K. S. Krowpman[106], J. Krstic[16], U. Kruchonak[79], H. Krüger[24], N. Krumnack[78], M. C. Kruse[49], J. A. Krzysiak[84], T. Kubota[104], O. Kuchinskaia[166], S. Kuday[4b], J. T. Kuechler[46], S. Kuehn[36], A. Kugel[61a], T. Kuhl[46], V. Kukhtin[79], R. Kukla[101], Y. Kulchitsky[107,aj], S. Kuleshov[147c], Y. P. Kulinich[173], M. Kuna[58], T. Kunigo[85], A. Kupco[141], T. Kupfer[47], O. Kuprash[52], H. Kurashige[82], L. L. Kurchaninov[168a], Y. A. Kurochkin[107], A. Kurova[111], M. G. Kurth[15a,15d], E. S. Kuwertz[36], M. Kuze[165], A. K. Kvam[148], J. Kvita[130], T. Kwan[103], A. La Rosa[114], L. La Rotonda[41a,41b], F. La Ruffa[41a,41b], C. Lacasta[174], F. Lacava[72a,72b], D. P. J. Lack[100], H. Lacker[19], D. Lacour[136], E. Ladygin[79], R. Lafaye[5], B. Laforge[136], T. Lagouri[33c], S. Lai[53], S. Lammers[65], W. Lampl[7], C. Lampoudis[162], E. Lançon[29], U. Landgraf[52], M. P. J. Landon[92], M. C. Lanfermann[54], V. S. Lang[46], J. C. Lange[53], R. J. Langenberg[36], A. J. Lankford[171], F. Lanni[29], K. Lantzsch[24], A. Lanza[70a], A. Lapertosa[55a,55b], S. Laplace[136], J. F. Laporte[145], T. Lari[68a], F. Lasagni Manghi[23a,23b], M. Lassnig[36], T. S. Lau[63a], A. Laudrain[132], A. Laurier[34], M. Lavorgna[69a,69b], S. D. Lawlor[93], M. Lazzaroni[68a,68b], B. Le[104], E. Le Guirriec[101], M. LeBlanc[7], T. LeCompte[6], F. Ledroit-Guillon[58], A. C. A. Lee[94], C. A. Lee[29], G. R. Lee[17], L. Lee[59], S. C. Lee[158], S. J. Lee[34], S. Lee[78], B. Lefebvre[168a], H. P. Lefebvre[93], M. Lefebvre[176], F. Legger[113], C. Leggett[18], K. Lehmann[152], N. Lehmann[182], G. Lehmann Miotto[36], W. A. Leight[46], A. Leisos[162,y], M. A. L. Leite[80d], C. E. Leitgeb[113], R. Leitner[143], D. Lellouch[180,*], K. J. C. Leney[42], T. Lenz[24], B. Lenzi[36], R. Leone[7], S. Leone[71a], C. Leonidopoulos[50], A. Leopold[136], G. Lerner[156], C. Leroy[109], R. Les[167], C. G. Lester[32], M. Levchenko[138], J. Levêque[5], D. Levin[105], L. J. Levinson[180], D. J. Lewis[21], B. Li[15b], B. Li[105], C.-Q. Li[60a], F. Li[60c],

H. Li[60a], H. Li[60b], J. Li[60c], K. Li[153], L. Li[60c], M. Li[15a], Q. Li[15a,15d], Q. Y. Li[60a], S. Li[60c,60d], X. Li[46], Y. Li[46], Z. Li[60b], Z. Liang[15a], B. Liberti[73a], A. Liblong[167], K. Lie[63c], C. Y. Lin[32], K. Lin[106], T. H. Lin[99], R. A. Linck[65], J. H. Lindon[21], A. L. Lionti[54], E. Lipeles[137], A. Lipniacka[17], M. Lisovyi[61b], T. M. Liss[173,au], A. Lister[175], A. M. Litke[146], J. D. Little[8], B. Liu[78], B. L. Liu[6], H. B. Liu[29], H. Liu[105], J. B. Liu[60a], J. K. K. Liu[135], K. Liu[136], M. Liu[60a], P. Liu[18], Y. Liu[15a,15d], Y. L. Liu[105], Y. W. Liu[60a], M. Livan[70a,70b], A. Lleres[58], J. Llorente Merino[152], S. L. Lloyd[92], C. Y. Lo[63b], F. Lo Sterzo[42], E. M. Lobodzinska[46], P. Loch[7], S. Loffredo[73a,73b], T. Lohse[19], K. Lohwasser[149], M. Lokajicek[141], J. D. Long[173], R. E. Long[89], L. Longo[36], K. A. Looper[126], J. A. Lopez[147c], I. Lopez Paz[100], A. Lopez Solis[149], J. Lorenz[113], N. Lorenzo Martinez[5], M. Losada[22], P. J. Lösel[113], A. Lösle[52], X. Lou[46], X. Lou[15a], A. Lounis[132], J. Love[6], P. A. Love[89], J. J. Lozano Bahilo[174], M. Lu[60a], Y. J. Lu[64], H. J. Lubatti[148], C. Luci[72a,72b], A. Lucotte[58], C. Luedtke[52], F. Luehring[65], I. Luise[136], L. Luminari[72a], B. Lund-Jensen[154], M. S. Lutz[102], D. Lynn[29], R. Lysak[141], E. Lytken[96], F. Lyu[15a], V. Lyubushkin[79], T. Lyubushkina[79], H. Ma[29], L. L. Ma[60b], Y. Ma[60b], G. Maccarrone[51], A. Macchiolo[114], C. M. Macdonald[149], J. Machado Miguens[137], D. Madaffari[174], R. Madar[38], W. F. Mader[48], N. Madysa[48], J. Maeda[82], S. Maeland[17], T. Maeno[29], M. Maerker[48], A. S. Maevskiy[112], V. Magerl[52], N. Magini[78], D. J. Mahon[39], C. Maidantchik[80b], T. Maier[113], A. Maio[140a,140b,140d], K. Maj[83a], O. Majersky[28a], S. Majewski[131], Y. Makida[81], N. Makovec[132], B. Malaescu[136], Pa. Malecki[84], V. P. Maleev[138], F. Malek[58], U. Mallik[77], D. Malon[6], C. Malone[32], S. Maltezos[10], S. Malyukov[79], J. Mamuzic[174], G. Mancini[51], I. Mandić[91], L. Manhaes de Andrade Filho[80a], I. M. Maniatis[162], J. Manjarres Ramos[48], K. H. Mankinen[96], A. Mann[113], A. Manousos[76], B. Mansoulie[145], I. Manthos[162], S. Manzoni[119], A. Marantis[162], G. Marceca[30], L. Marchese[135], G. Marchiori[136], M. Marcisovsky[141], L. Marcoccia[73a,73b], C. Marcon[96], C. A. Marin Tobon[36], M. Marjanovic[128], Z. Marshall[18], M.U.F Martensson[172], S. Marti-Garcia[174], C. B. Martin[126], T. A. Martin[178], V. J. Martin[50], B. Martin dit Latour[17], L. Martinelli[74a,74b], M. Martinez[14,z], V. I. Martinez Outschoorn[102], S. Martin-Haugh[144], V. S. Martoiu[27b], A. C. Martyniuk[94], A. Marzin[36], S. R. Maschek[114], L. Masetti[99], T. Mashimo[163], R. Mashinistov[110], J. Masik[100], A. L. Maslennikov[121a,121b], L. Massa[73a,73b], P. Massarotti[69a,69b], P. Mastrandrea[71a,71b], A. Mastroberardino[41a,41b], T. Masubuchi[163], D. Matakias[10], A. Matic[113], P. Mättig[24], J. Maurer[27b], B. Maček[91], D. A. Maximov[121a,121b], R. Mazini[158], I. Maznas[162], S. M. Mazza[146], S. P. Mc Kee[105], T. G. McCarthy[114], W. P. McCormack[18], E. F. McDonald[104], J. A. Mcfayden[36], G. Mchedlidze[159b], M. A. McKay[42], K. D. McLean[176], S. J. McMahon[144], P. C. McNamara[104], C. J. McNicol[178], R. A. McPherson[176,ae], J. E. Mdhluli[33c], Z. A. Meadows[102], S. Meehan[36], T. Megy[52], S. Mehlhase[113], A. Mehta[90], T. Meideck[58], B. Meirose[43], D. Melini[174], B. R. Mellado Garcia[33c], J. D. Mellenthin[53], M. Melo[28a], F. Meloni[46], A. Melzer[24], S. B. Menary[100], E. D. Mendes Gouveia[140a,140e], L. Meng[36], X. T. Meng[105], S. Menke[114], E. Meoni[41a,41b], S. Mergelmeyer[19], S. A. M. Merkt[139], C. Merlassino[20], P. Mermod[54], L. Merola[69a,69b], C. Meroni[68a], O. Meshkov[110,112], J. K. R. Meshreki[151], A. Messina[72a,72b], J. Metcalfe[6], A. S. Mete[171], C. Meyer[65], J. Meyer[160], J.-P. Meyer[145], H. Meyer Zu Theenhausen[61a], F. Miano[156], M. Michetti[19], R. P. Middleton[144], L. Mijović[50], G. Mikenberg[180], M. Mikestikova[141], M. Mikuž[91], H. Mildner[149], M. Milesi[104], A. Milic[167], D. A. Millar[92], D. W. Miller[37], A. Milov[180], D. A. Milstead[45a,45b], R. A. Mina[153,q], A. A. Minaenko[122], M. Miñano Moya[174], I. A. Minashvili[159b], A. I. Mincer[124], B. Mindur[83a], M. Mineev[79], Y. Minegishi[163], L. M. Mir[14], A. Mirto[67a,67b], K. P. Mistry[137], T. Mitani[179], J. Mitrevski[113], V. A. Mitsou[174], M. Mittal[60c], O. Miu[167], A. Miucci[20], P. S. Miyagawa[149], A. Mizukami[81], J. U. Mjörnmark[96], T. Mkrtchyan[184], M. Mlynarikova[143], T. Moa[45a,45b], K. Mochizuki[109], P. Mogg[52], S. Mohapatra[39], R. Moles-Valls[24], M. C. Mondragon[106], K. Mönig[46], J. Monk[40], E. Monnier[101], A. Montalbano[152], J. Montejo Berlingen[36], M. Montella[94], F. Monticelli[88], S. Monzani[68a], N. Morange[132], D. Moreno[22], M. Moreno Llácer[36], C. Moreno Martinez[14], P. Morettini[55b], M. Morgenstern[119], S. Morgenstern[48], D. Mori[152], M. Morii[59], M. Morinaga[179], V. Morisbak[134], A. K. Morley[36], G. Mornacchi[36], A. P. Morris[94], L. Morvaj[155], P. Moschovakos[36], B. Moser[119], M. Mosidze[159b], T. Moskalets[145], H. J. Moss[149], J. Moss[31,n], E. J. W. Moyse[102], S. Muanza[101], J. Mueller[139], R. S. P. Mueller[113], D. Muenstermann[89], G. A. Mullier[96], J. L. Munoz Martinez[14], F. J. Munoz Sanchez[100], P. Murin[28b], W. J. Murray[144,178], A. Murrone[68a,68b], M. Muškinja[18], C. Mwewa[33a], A. G. Myagkov[122,ao], J. Myers[131], M. Myska[142], B. P. Nachman[18], O. Nackenhorst[47], A.Nag Nag[48], K. Nagai[135], K. Nagano[81], Y. Nagasaka[62], M. Nagel[52], J. L. Nagle[29], E. Nagy[101], A. M. Nairz[36], Y. Nakahama[116], K. Nakamura[81], T. Nakamura[163], I. Nakano[127], H. Nanjo[133], F. Napolitano[61a], R. F. Naranjo Garcia[46], R. Narayan[42], I. Naryshkin[138], T. Naumann[46], G. Navarro[22], P. Y. Nechaeva[110], F. Nechansky[46], T. J. Neep[21], A. Negri[70a,70b], M. Negrini[23b], C. Nellist[53], M. E. Nelson[135], S. Nemecek[141], P. Nemethy[124], M. Nessi[36,d], M. S. Neubauer[173], M. Neumann[182], P. R. Newman[21], Y. S. Ng[19], Y. W. Y. Ng[171], B. Ngair[35e], H. D. N. Nguyen[101], T. Nguyen Manh[109], E. Nibigira[38], R. B. Nickerson[135], R. Nicolaidou[145], D. S. Nielsen[40], J. Nielsen[146], N. Nikiforou[11], V. Nikolaenko[122,ao], I. Nikolic-Audit[136], K. Nikolopoulos[21], P. Nilsson[29], H. R. Nindhito[54], Y. Ninomiya[81], A. Nisati[72a], N. Nishu[60c], R. Nisius[114], I. Nitsche[47], T. Nitta[179], T. Nobe[163], Y. Noguchi[85], I. Nomidis[136], M. A. Nomura[29], M. Nordberg[36], N. Norjoharuddeen[135], T. Novak[91], O. Novgorodova[48], R. Novotny[142], L. Nozka[130], K. Ntekas[171], E. Nurse[94], F. G. Oakham[34,ax], H. Oberlack[114], J. Ocariz[136], A. Ochi[82],

I. Ochoa[39], J. P. Ochoa-Ricoux[147a], K. O'Connor[26], S. Oda[87], S. Odaka[81], S. Oerdek[53], A. Ogrodnik[83a], A. Oh[100], S. H. Oh[49], C. C. Ohm[154], H. Oide[165], M. L. Ojeda[167], H. Okawa[169], Y. Okazaki[85], Y. Okumura[163], T. Okuyama[81], A. Olariu[27b], L. F. Oleiro Seabra[140a], S. A. Olivares Pino[147a], D. Oliveira Damazio[29], J. L. Oliver[1], M. J. R. Olsson[171], A. Olszewski[84], J. Olszowska[84], D. C. O'Neil[152], A. P. O'neill[135], A. Onofre[140a,140e], P. U. E. Onyisi[11], H. Oppen[134], M. J. Oreglia[37], G. E. Orellana[88], D. Orestano[74a,74b], N. Orlando[14], R. S. Orr[167], V. O'Shea[57], R. Ospanov[60a], G. Otero y Garzon[30], H. Otono[87], P. S. Ott[61a], M. Ouchrif[35d], J. Ouellette[29], F. Ould-Saada[134], A. Ouraou[145], Q. Ouyang[15a], M. Owen[57], R. E. Owen[21], V. E. Ozcan[12c], N. Ozturk[8], J. Pacalt[130], H. A. Pacey[32], K. Pachal[49], A. Pacheco Pages[14], C. Padilla Aranda[14], S. Pagan Griso[18], M. Paganini[183], G. Palacino[65], S. Palazzo[50], S. Palestini[36], M. Palka[83b], D. Pallin[38], I. Panagoulias[10], C. E. Pandini[36], J. G. Panduro Vazquez[93], P. Pani[46], G. Panizzo[66a,66c], L. Paolozzi[54], C. Papadatos[109], K. Papageorgiou[9,h], S. Parajuli[43], A. Paramonov[6], D. Paredes Hernandez[63b], S. R. Paredes Saenz[135], B. Parida[166], T. H. Park[167], A. J. Parker[31], M. A. Parker[32], F. Parodi[55a,55b], E. W. Parrish[120], J. A. Parsons[39], U. Parzefall[52], L. Pascual Dominguez[136], V. R. Pascuzzi[167], J. M. P. Pasner[146], F. Pasquali[119], E. Pasqualucci[72a], S. Passaggio[55b], F. Pastore[93], P. Pasuwan[45a,45b], S. Pataraia[99], J. R. Pater[100], A. Pathak[181,j], T. Pauly[36], B. Pearson[114], M. Pedersen[134], L. Pedraza Diaz[118], R. Pedro[140a], T. Peiffer[53], S. V. Peleganchuk[121a,121b], O. Penc[141], H. Peng[60a], B. S. Peralva[80a], M. M. Perego[132], A. P. Pereira Peixoto[140a], D. V. Perepelitsa[29], F. Peri[19], L. Perini[68a,68b], H. Pernegger[36], S. Perrella[69a,69b], K. Peters[46], R. F. Y. Peters[100], B. A. Petersen[36], T. C. Petersen[40], E. Petit[101], A. Petridis[1], C. Petridou[162], P. Petroff[132], M. Petrov[135], F. Petrucci[74a,74b], M. Pettee[183], N. E. Pettersson[102], K. Petukhova[143], A. Peyaud[145], R. Pezoa[147c], L. Pezzotti[70a,70b], T. Pham[104], F. H. Phillips[106], P. W. Phillips[144], M. W. Phipps[173], G. Piacquadio[155], E. Pianori[18], A. Picazio[102], R. H. Pickles[100], R. Piegaia[30], D. Pietreanu[27b], J. E. Pilcher[37], A. D. Pilkington[100], M. Pinamonti[73a,73b], J. L. Pinfold[3], M. Pitt[161], L. Pizzimento[73a,73b], M.-A. Pleier[29], V. Pleskot[143], E. Plotnikova[79], P. Podberezko[121a,121b], R. Poettgen[96], R. Poggi[54], L. Poggioli[132], I. Pogrebnyak[106], D. Pohl[24], I. Pokharel[53], G. Polesello[70a], A. Poley[18], A. Policicchio[72a,72b], R. Polifka[143], A. Polini[23b], C. S. Pollard[46], V. Polychronakos[29], D. Ponomarenko[111], L. Pontecorvo[36], S. Popa[27a], G. A. Popeneciu[27d], L. Portales[5], D. M. Portillo Quintero[58], S. Pospisil[142], K. Potamianos[46], I. N. Potrap[79], C. J. Potter[32], H. Potti[11], T. Poulsen[96], J. Poveda[36], T. D. Powell[149], G. Pownall[46], M. E. Pozo Astigarraga[36], P. Pralavorio[101], S. Prell[78], D. Price[100], M. Primavera[67a], S. Prince[103], M. L. Proffitt[148], N. Proklova[111], K. Prokofiev[63c], F. Prokoshin[79], S. Protopopescu[29], J. Proudfoot[6], M. Przybycien[83a], D. Pudzha[138], A. Puri[173], P. Puzo[132], J. Qian[105], Y. Qin[100], A. Quadt[53], M. Queitsch-Maitland[46], A. Qureshi[1], M. Racko[28a], P. Rados[104], F. Ragusa[68a,68b], G. Rahal[97], J. A. Raine[54], S. Rajagopalan[29], A. Ramirez Morales[92], K. Ran[15a,15d], T. Rashid[132], S. Raspopov[5], D. M. Rauch[46], F. Rauscher[113], S. Rave[99], B. Ravina[149], I. Ravinovich[180], J. H. Rawling[100], M. Raymond[36], A. L. Read[134], N. P. Readioff[58], M. Reale[67a,67b], D. M. Rebuzzi[70a,70b], A. Redelbach[177], G. Redlinger[29], K. Reeves[43], L. Rehnisch[19], J. Reichert[137], D. Reikher[161], A. Reiss[99], A. Rej[151], C. Rembser[36], M. Renda[27b], M. Rescigno[72a], S. Resconi[68a], E. D. Resseguie[137], S. Rettie[175], E. Reynolds[21], O. L. Rezanova[121a,121b], P. Reznicek[143], E. Ricci[75a,75b], R. Richter[114], S. Richter[46], E. Richter-Was[83b], O. Ricken[24], M. Ridel[136], P. Rieck[114], C. J. Riegel[182], O. Rifki[46], M. Rijssenbeek[155], A. Rimoldi[70a,70b], M. Rimoldi[46], L. Rinaldi[23b], G. Ripellino[154], I. Riu[14], J. C. Rivera Vergara[176], F. Rizatdinova[129], E. Rizvi[92], C. Rizzi[36], R. T. Roberts[100], S. H. Robertson[103,ae], M. Robin[46], D. Robinson[32], J. E. M. Robinson[46], C. M. Robles Gajardo[147c], A. Robson[57], A. Rocchi[73a,73b], E. Rocco[99], C. Roda[71a,71b], S. Rodriguez Bosca[174], A. Rodriguez Perez[14], D. Rodriguez Rodriguez[174], A. M. Rodríguez Vera[168b], S. Roe[36], O. Røhne[134], R. Röhrig[114], R. A. Rojas[147c], C. P. A. Roland[65], J. Roloff[59], A. Romaniouk[111], M. Romano[23a,23b], N. Rompotis[90], M. Ronzani[124], L. Roos[136], S. Rosati[72a], K. Rosbach[52], G. Rosin[102], B. J. Rosser[137], E. Rossi[46], E. Rossi[74a,74b], E. Rossi[69a,69b], L. P. Rossi[55b], L. Rossini[68a,68b], R. Rosten[14], M. Rotaru[27b], J. Rothberg[148], D. Rousseau[132], G. Rovelli[70a,70b], A. Roy[11], D. Roy[33c], A. Rozanov[101], Y. Rozen[160], X. Ruan[33c], F. Rubbo[153], F. Rühr[52], A. Ruiz-Martinez[174], A. Rummler[36], Z. Rurikova[52], N. A. Rusakovich[79], H. L. Russell[103], L. Rustige[38,47], J. P. Rutherfoord[7], E. M. Rüttinger[149], M. Rybar[39], G. Rybkin[132], E. B. Rye[134], A. Ryzhov[122], P. Sabatini[53], G. Sabato[119], S. Sacerdoti[132], H. F.-W. Sadrozinski[146], R. Sadykov[79], F. Safai Tehrani[72a], B. Safarzadeh Samani[156], P. Saha[120], S. Saha[103], M. Sahinsoy[61a], A. Sahu[182], M. Saimpert[46], M. Saito[163], T. Saito[163], H. Sakamoto[163], A. Sakharov[124,an], D. Salamani[54], G. Salamanna[74a,74b], J. E. Salazar Loyola[147c], P. H. Sales De Bruin[172], A. Salnikov[153], J. Salt[174], D. Salvatore[41a,41b], F. Salvatore[156], A. Salvucci[63a,63b,63c], A. Salzburger[36], J. Samarati[36], D. Sammel[52], D. Sampsonidis[162], D. Sampsonidou[162], J. Sánchez[174], A. Sanchez Pineda[66a,66c], H. Sandaker[134], C. O. Sander[46], I. G. Sanderswood[89], M. Sandhoff[182], C. Sandoval[22], D. P. C. Sankey[144], M. Sannino[55a,55b], Y. Sano[116], A. Sansoni[51], C. Santoni[38], H. Santos[140a,140b], S. N. Santpur[18], A. Santra[174], A. Sapronov[79], J. G. Saraiva[140a,140d], O. Sasaki[81], K. Sato[169], F. Sauerburger[52], E. Sauvan[5], P. Savard[167,ax], N. Savic[114], R. Sawada[163], C. Sawyer[144], L. Sawyer[95,al], C. Sbarra[23b], A. Sbrizzi[23a], T. Scanlon[94], J. Schaarschmidt[148], P. Schacht[114], B. M. Schachtner[113], D. Schaefer[37], L. Schaefer[137], J. Schaeffer[99], S. Schaepe[36], U. Schäfer[99], A. C. Schaffer[132], D. Schaile[113], R. D. Schamberger[155], N. Scharmberg[100], V. A. Schegelsky[138], D. Scheirich[143],

F. Schenck[19], M. Schernau[171], C. Schiavi[55a,55b], S. Schier[146], L. K. Schildgen[24], Z. M. Schillaci[26], E. J. Schioppa[36], M. Schioppa[41a,41b], K. E. Schleicher[52], S. Schlenker[36], K. R. Schmidt-Sommerfeld[114], K. Schmieden[36], C. Schmitt[99], S. Schmitt[46], S. Schmitz[99], J. C. Schmoeckel[46], U. Schnoor[52], L. Schoeffel[145], A. Schoening[61b], P. G. Scholer[52], E. Schopf[135], M. Schott[99], J. F. P. Schouwenberg[118], J. Schovancova[36], S. Schramm[54], F. Schroeder[182], A. Schulte[99], H.-C. Schultz-Coulon[61a], M. Schumacher[52], B. A. Schumm[146], Ph. Schune[145], A. Schwartzman[153], T. A. Schwarz[105], Ph. Schwemling[145], R. Schwienhorst[106], A. Sciandra[146], G. Sciolla[26], M. Scodeggio[46], M. Scornajenghi[41a,41b], F. Scuri[71a], F. Scutti[104], L. M. Scyboz[114], C. D. Sebastiani[72a,72b], P. Seema[19], S. C. Seidel[117], A. Seiden[146], B. D. Seidlitz[29], T. Seiss[37], J. M. Seixas[80b], G. Sekhniaidze[69a], K. Sekhon[105], S. J. Sekula[42], N. Semprini-Cesari[23a,23b], S. Sen[49], S. Senkin[38], C. Serfon[76], L. Serin[132], L. Serkin[66a,66b], M. Sessa[60a], H. Severini[128], T. Šfiligoj[91], F. Sforza[55a,55b], A. Sfyrla[54], E. Shabalina[53], J. D. Shahinian[146], N. W. Shaikh[45a,45b], D. Shaked Renous[180], L. Y. Shan[15a], R. Shang[173], J. T. Shank[25], M. Shapiro[18], A. Sharma[135], A. S. Sharma[1], P. B. Shatalov[123], K. Shaw[156], S. M. Shaw[100], A. Shcherbakova[138], M. Shehade[180], Y. Shen[128], N. Sherafati[34], A. D. Sherman[25], P. Sherwood[94], L. Shi[158,at], S. Shimizu[81], C. O. Shimmin[183], Y. Shimogama[179], M. Shimojima[115], I. P. J. Shipsey[135], S. Shirabe[87], M. Shiyakova[79,ac], J. Shlomi[180], A. Shmeleva[110], M. J. Shochet[37], J. Shojaii[104], D. R. Shope[128], S. Shrestha[126], E. M. Shrif[33c], E. Shulga[180], P. Sicho[141], A. M. Sickles[173], P. E. Sidebo[154], E. Sideras Haddad[33c], O. Sidiropoulou[36], A. Sidoti[23a,23b], F. Siegert[48], Dj. Sijacki[16], M. Jr. Silva[181], M. V. Silva Oliveira[80a], S. B. Silverstein[45a], S. Simion[132], E. Simioni[99], R. Simoniello[99], S. Simsek[12b], P. Sinervo[167], V. Sinetckii[110,112], N. B. Sinev[131], M. Sioli[23a,23b], I. Siral[105], S. Yu. Sivoklokov[112], J. Sjölin[45a,45b], E. Skorda[96], P. Skubic[128], M. Slawinska[84], K. Sliwa[170], R. Slovak[143], V. Smakhtin[180], B. H. Smart[144], J. Smiesko[28a], N. Smirnov[111], S. Yu. Smirnov[111], Y. Smirnov[111], L. N. Smirnova[112,v], O. Smirnova[96], J. W. Smith[53], M. Smizanska[89], K. Smolek[142], A. Smykiewicz[84], A. A. Snesarev[110], H. L. Snoek[119], I. M. Snyder[131], S. Snyder[29], R. Sobie[176,ae], A. Soffer[161], A. Søgaard[50], F. Sohns[53], C. A. Solans Sanchez[36], E. Yu. Soldatov[111], U. Soldevila[174], A. A. Solodkov[122], A. Soloshenko[79], O. V. Solovyanov[122], V. Solovyev[138], P. Sommer[149], H. Son[170], W. Song[144], W. Y. Song[168b], A. Sopczak[142], F. Sopkova[28b], C. L. Sotiropoulou[71a,71b], S. Sottocornola[70a,70b], R. Soualah[66a,66c,g], A. M. Soukharev[121a,121b], D. South[46], S. Spagnolo[67a,67b], M. Spalla[114], M. Spangenberg[178], F. Spanò[93], D. Sperlich[52], T. M. Spieker[61a], R. Spighi[23b], G. Spigo[36], M. Spina[156], D. P. Spiteri[57], M. Spousta[143], A. Stabile[68a,68b], B. L. Stamas[120], R. Stamen[61a], M. Stamenkovic[119], E. Stanecka[84], B. Stanislaus[135], M. M. Stanitzki[46], M. Stankaityte[135], B. Stapf[119], E. A. Starchenko[122], G. H. Stark[146], J. Stark[58], S. H. Stark[40], P. Staroba[141], P. Starovoitov[61a], S. Stärz[103], R. Staszewski[84], G. Stavropoulos[44], M. Stegler[46], P. Steinberg[29], A. L. Steinhebel[131], B. Stelzer[152], H. J. Stelzer[139], O. Stelzer-Chilton[168a], H. Stenzel[56], T. J. Stevenson[156], G. A. Stewart[36], M. C. Stockton[36], G. Stoicea[27b], M. Stolarski[140a], S. Stonjek[114], A. Straessner[48], J. Strandberg[154], S. Strandberg[45a,45b], M. Strauss[128], P. Strizenec[28b], R. Ströhmer[177], D. M. Strom[131], R. Stroynowski[42], A. Strubig[50], S. A. Stucci[29], B. Stugu[17], J. Stupak[128], N. A. Styles[46], D. Su[153], S. Suchek[61a], V. V. Sulin[110], M. J. Sullivan[90], D. M. S. Sultan[54], S. Sultansoy[4c], T. Sumida[85], S. Sun[105], X. Sun[3], K. Suruliz[156], C. J. E. Suster[157], M. R. Sutton[156], S. Suzuki[81], M. Svatos[141], M. Swiatlowski[37], S. P. Swift[2], T. Swirski[177], A. Sydorenko[99], I. Sykora[28a], M. Sykora[143], T. Sykora[143], D. Ta[99], K. Tackmann[46,aa], J. Taenzer[161], A. Taffard[171], R. Tafirout[168a], H. Takai[29], R. Takashima[86], K. Takeda[82], T. Takeshita[150], E. P. Takeva[50], Y. Takubo[81], M. Talby[101], A. A. Talyshev[121a,121b], N. M. Tamir[161], J. Tanaka[163], M. Tanaka[165], R. Tanaka[132], S. Tapia Araya[173], S. Tapprogge[99], A. Tarek Abouelfadl Mohamed[136], S. Tarem[160], K. Tariq[60b], G. Tarna[27b,c], G. F. Tartarelli[68a], P. Tas[143], M. Tasevsky[141], T. Tashiro[85], E. Tassi[41a,41b], A. Tavares Delgado[140a,140b], Y. Tayalati[35e], A. J. Taylor[50], G. N. Taylor[104], W. Taylor[168b], A. S. Tee[89], R. Teixeira De Lima[153], P. Teixeira-Dias[93], H. Ten Kate[36], J. J. Teoh[119], S. Terada[81], K. Terashi[163], J. Terron[98], S. Terzo[14], M. Testa[51], R. J. Teuscher[167,ae], S. J. Thais[183], T. Theveneaux-Pelzer[46], F. Thiele[40], D. W. Thomas[93], J. O. Thomas[42], J. P. Thomas[21], A. S. Thompson[57], P. D. Thompson[21], L. A. Thomsen[183], E. Thomson[137], E. J. Thorpe[92], R. E. Ticse Torres[53], V. O. Tikhomirov[110,ap], Yu. A. Tikhonov[121a,121b], S. Timoshenko[111], P. Tipton[183], S. Tisserant[101], K. Todome[23a,23b], S. Todorova-Nova[5], S. Todt[48], J. Tojo[87], S. Tokár[28a], K. Tokushuku[81], E. Tolley[126], K. G. Tomiwa[33c], M. Tomoto[116], L. Tompkins[153,q], B. Tong[59], P. Tornambe[102], E. Torrence[131], H. Torres[48], E. Torró Pastor[148], C. Tosciri[135], J. Toth[101,ad], D. R. Tovey[149], A. Traeet[17], C. J. Treado[124], T. Trefzger[177], F. Tresoldi[156], A. Tricoli[29], I. M. Trigger[168a], S. Trincaz-Duvoid[136], W. Trischuk[167], B. Trocmé[58], A. Trofymov[145], C. Troncon[68a], M. Trovatelli[176], F. Trovato[156], L. Truong[33b], M. Trzebinski[84], A. Trzupek[84], F. Tsai[46], J. C.-L. Tseng[135], P. V. Tsiareshka[107,aj], A. Tsirigotis[162], V. Tsiskaridze[155], E. G. Tskhadadze[159a], M. Tsopoulou[162], I. I. Tsukerman[123], V. Tsulaia[18], S. Tsuno[81], D. Tsybychev[155], Y. Tu[63b], A. Tudorache[27b], V. Tudorache[27b], T. T. Tulbure[27a], A. N. Tuna[59], S. Turchikhin[79], D. Turgeman[180], I. Turk Cakir[4b,w], R. J. Turner[21], R. T. Turra[68a], P. M. Tuts[39], S. Tzamarias[162], E. Tzovara[99], G. Ucchielli[47], K. Uchida[163], I. Ueda[81], M. Ughetto[45a,45b], F. Ukegawa[169], G. Unal[36], A. Undrus[29], G. Unel[171], F. C. Ungaro[104], Y. Unno[81], K. Uno[163], J. Urban[28b], P. Urquijo[104], G. Usai[8], Z. Uysal[12d], L. Vacavant[101], V. Vacek[142], B. Vachon[103], K. O. H. Vadla[134], A. Vaidya[94], C. Valderanis[113], E. Valdes Santurio[45a,45b], M. Valente[54], S. Valentinetti[23a,23b], A. Valero[174], L. Valéry[46],

R. A. Vallance[21], A. Vallier[36], J. A. Valls Ferrer[174], T. R. Van Daalen[14], P. Van Gemmeren[6], I. Van Vulpen[119], M. Vanadia[73a,73b], W. Vandelli[36], E. R. Vandewall[129], A. Vaniachine[166], D. Vannicola[72a,72b], R. Vari[72a], E. W. Varnes[7], C. Varni[55a,55b], T. Varol[158], D. Varouchas[132], K. E. Varvell[157], M. E. Vasile[27b], G. A. Vasquez[176], J. G. Vasquez[183], F. Vazeille[38], D. Vazquez Furelos[14], T. Vazquez Schroeder[36], J. Veatch[53], V. Vecchio[74a,74b], M. J. Veen[119], L. M. Veloce[167], F. Veloso[140a,140c], S. Veneziano[72a], A. Ventura[67a,67b], N. Venturi[36], A. Verbytskyi[114], V. Vercesi[70a], M. Verducci[71a,71b], C. M. Vergel Infante[78], C. Vergis[24], W. Verkerke[119], A. T. Vermeulen[119], J. C. Vermeulen[119], M. C. Vetterli[152,ax], N. Viaux Maira[147c], M. Vicente Barreto Pinto[54], T. Vickey[149], O. E. Vickey Boeriu[149], G. H. A. Viehhauser[135], L. Vigani[61b], M. Villa[23a,23b], M. Villaplana Perez[68a,68b], E. Vilucchi[51], M. G. Vincter[34], G. S. Virdee[21], A. Vishwakarma[46], C. Vittori[23a,23b], I. Vivarelli[156], M. Vogel[182], P. Vokac[142], S. E. von Buddenbrock[33c], E. Von Toerne[24], V. Vorobel[143], K. Vorobev[111], M. Vos[174], J. H. Vossebeld[90], M. Vozak[100], N. Vranjes[16], M. Vranjes Milosavljevic[16], V. Vrba[142], M. Vreeswijk[119], R. Vuillermet[36], I. Vukotic[37], P. Wagner[24], W. Wagner[182], J. Wagner-Kuhr[113], S. Wahdan[182], H. Wahlberg[88], V. M. Walbrecht[114], J. Walder[89], R. Walker[113], S. D. Walker[93], W. Walkowiak[151], V. Wallangen[45a,45b], A. M. Wang[59], C. Wang[60c], C. Wang[60b], F. Wang[181], H. Wang[18], H. Wang[3], J. Wang[63a], J. Wang[157], J. Wang[61b], P. Wang[42], Q. Wang[128], R.-J. Wang[99], R. Wang[60a], R. Wang[6], S. M. Wang[158], W. T. Wang[60a], W. Wang[15c,af], W. X. Wang[60a,af], Y. Wang[60a,am], Z. Wang[60c], C. Wanotayaroj[46], A. Warburton[103], C. P. Ward[32], D. R. Wardrope[94], N. Warrack[57], A. Washbrook[50], A. T. Watson[21], M. F. Watson[21], G. Watts[148], B. M. Waugh[94], A. F. Webb[11], S. Webb[99], C. Weber[183], M. S. Weber[20], S. A. Weber[34], S. M. Weber[61a], A. R. Weidberg[135], J. Weingarten[47], M. Weirich[99], C. Weiser[52], P. S. Wells[36], T. Wenaus[29], T. Wengler[36], S. Wenig[36], N. Wermes[24], M. D. Werner[78], M. Wessels[61a], T. D. Weston[20], K. Whalen[131], N. L. Whallon[148], A. M. Wharton[89], A. S. White[105], A. White[8], M. J. White[1], D. Whiteson[171], B. W. Whitmore[89], W. Wiedenmann[181], M. Wielers[144], N. Wieseotte[99], C. Wiglesworth[40], L. A. M. Wiik-Fuchs[52], F. Wilk[100], H. G. Wilkens[36], L. J. Wilkins[93], H. H. Williams[137], S. Williams[32], C. Willis[106], S. Willocq[102], J. A. Wilson[21], I. Wingerter-Seez[5], E. Winkels[156], F. Winklmeier[131], O. J. Winston[156], B. T. Winter[52], M. Wittgen[153], M. Wobisch[95], A. Wolf[99], T. M. H. Wolf[119], R. Wolff[101], R. W. Wölker[135], J. Wollrath[52], M. W. Wolter[84], H. Wolters[140a,140c], V. W. S. Wong[175], N. L. Woods[146], S. D. Worm[21], B. K. Wosiek[84], K. W. Woźniak[84], K. Wraight[57], S. L. Wu[181], X. Wu[54], Y. Wu[60a], T. R. Wyatt[100], B. M. Wynne[50], S. Xella[40], Z. Xi[105], L. Xia[178], X. Xiao[105], I. Xiotidis[156], D. Xu[15a], H. Xu[60a,c], L. Xu[29], T. Xu[145], W. Xu[105], Z. Xu[60b], Z. Xu[153], B. Yabsley[157], S. Yacoob[33a], K. Yajima[133], D. P. Yallup[94], D. Yamaguchi[165], Y. Yamaguchi[165], A. Yamamoto[81], M. Yamatani[163], T. Yamazaki[163], Y. Yamazaki[82], Z. Yan[25], H. J. Yang[60c,60d], H. T. Yang[18], S. Yang[77], X. Yang[58,60b], Y. Yang[163], W.-M. Yao[18], Y. C. Yap[46], Y. Yasu[81], E. Yatsenko[60c,60d], J. Ye[42], S. Ye[29], I. Yeletskikh[79], M. R. Yexley[89], E. Yigitbasi[25], K. Yorita[179], K. Yoshihara[137], C. J. S. Young[36], C. Young[153], J. Yu[78], R. Yuan[60b,i], X. Yue[61a], S. P. Y. Yuen[24], M. Zaazoua[35e], B. Zabinski[84], G. Zacharis[10], E. Zaffaroni[54], J. Zahreddine[136], A. M. Zaitsev[122,ao], T. Zakareishvili[159b], N. Zakharchuk[34], S. Zambito[59], D. Zanzi[36], D. R. Zaripovas[57], S. V. Zeißner[47], C. Zeitnitz[182], G. Zemaityte[135], J. C. Zeng[173], O. Zenin[122], T. Ženiš[28a], D. Zerwas[132], M. Zgubič[135], B. Zhang[15c], D. F. Zhang[15b], G. Zhang[15b], H. Zhang[15c], J. Zhang[6], L. Zhang[15c], L. Zhang[60a], M. Zhang[173], R. Zhang[24], X. Zhang[60b], Y. Zhang[15a,15d], Z. Zhang[63a], Z. Zhang[132], P. Zhao[49], Y. Zhao[60b], Z. Zhao[60a], A. Zhemchugov[79], Z. Zheng[105], D. Zhong[173], B. Zhou[105], C. Zhou[181], M. S. Zhou[15a,15d], M. Zhou[155], N. Zhou[60c], Y. Zhou[7], C. G. Zhu[60b], C. Zhu[15a], H. L. Zhu[60a], H. Zhu[15a], J. Zhu[105], Y. Zhu[60a], X. Zhuang[15a], K. Zhukov[110], V. Zhulanov[121a,121b], D. Zieminska[65], N. I. Zimine[79], S. Zimmermann[52], Z. Zinonos[114], M. Ziolkowski[151], L. Živković[16], G. Zobernig[181], A. Zoccoli[23a,23b], K. Zoch[53], T. G. Zorbas[149], R. Zou[37], L. Zwalinski[36]

[1] Department of Physics, University of Adelaide, Adelaide, Australia
[2] Physics Department, SUNY Albany, Albany, NY, USA
[3] Department of Physics, University of Alberta, Edmonton, AB, Canada
[4] [(a)]Department of Physics, Ankara University, Ankara, Turkey; [(b)]Istanbul Aydin University, Istanbul, Turkey; [(c)]Division of Physics, TOBB University of Economics and Technology, Ankara, Turkey
[5] LAPP, Université Grenoble Alpes, Université Savoie Mont Blanc, CNRS/IN2P3, Annecy, France
[6] High Energy Physics Division, Argonne National Laboratory, Argonne, IL, USA
[7] Department of Physics, University of Arizona, Tucson, AZ, USA
[8] Department of Physics, University of Texas at Arlington, Arlington, TX, USA
[9] Physics Department, National and Kapodistrian University of Athens, Athens, Greece
[10] Physics Department, National Technical University of Athens, Zografou, Greece
[11] Department of Physics, University of Texas at Austin, Austin, TX, USA

[12] [(a)]Bahcesehir University, Faculty of Engineering and Natural Sciences, Istanbul, Turkey; [(b)]Istanbul Bilgi University, Faculty of Engineering and Natural Sciences, Istanbul, Turkey; [(c)]Department of Physics, Bogazici University, Istanbul, Turkey; [(d)]Department of Physics Engineering, Gaziantep University, Gaziantep, Turkey
[13] Institute of Physics, Azerbaijan Academy of Sciences, Baku, Azerbaijan
[14] Institut de Física d'Altes Energies (IFAE), Barcelona Institute of Science and Technology, Barcelona, Spain
[15] [(a)]Institute of High Energy Physics, Chinese Academy of Sciences, Beijing, China; [(b)]Physics Department, Tsinghua University, Beijing, China; [(c)]Department of Physics, Nanjing University, Nanjing, China; [(d)]University of Chinese Academy of Science (UCAS), Beijing, China
[16] Institute of Physics, University of Belgrade, Belgrade, Serbia
[17] Department for Physics and Technology, University of Bergen, Bergen, Norway
[18] Physics Division, Lawrence Berkeley National Laboratory and University of California, Berkeley, CA, USA
[19] Institut für Physik, Humboldt Universität zu Berlin, Berlin, Germany
[20] Albert Einstein Center for Fundamental Physics and Laboratory for High Energy Physics, University of Bern, Bern, Switzerland
[21] School of Physics and Astronomy, University of Birmingham, Birmingham, UK
[22] Facultad de Ciencias y Centro de Investigaciónes, Universidad Antonio Nariño, Bogotá, Colombia
[23] [(a)]Dipartimento di Fisica, INFN Bologna and Universita' di Bologna, Bologna, Italy; [(b)]INFN Sezione di Bologna, Bologna, Italy
[24] Physikalisches Institut, Universität Bonn, Bonn, Germany
[25] Department of Physics, Boston University, Boston, MA, USA
[26] Department of Physics, Brandeis University, Waltham, MA, USA
[27] [(a)]Transilvania University of Brasov, Brasov, Romania; [(b)]Horia Hulubei National Institute of Physics and Nuclear Engineering, Bucharest, Romania; [(c)]Department of Physics, Alexandru Ioan Cuza University of Iasi, Iasi, Romania; [(d)]National Institute for Research and Development of Isotopic and Molecular Technologies, Physics Department, Cluj Napoca, Romania; [(e)]University Politehnica Bucharest, Bucharest, Romania; [(f)]West University in Timisoara, Timisoara, Romania
[28] [(a)]Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava, Slovak Republic; [(b)]Department of Subnuclear Physics, Institute of Experimental Physics of the Slovak Academy of Sciences, Kosice, Slovak Republic
[29] Physics Department, Brookhaven National Laboratory, Upton, NY, USA
[30] Departamento de Física, Universidad de Buenos Aires, Buenos Aires, Argentina
[31] California State University, California, CA, USA
[32] Cavendish Laboratory, University of Cambridge, Cambridge, UK
[33] [(a)]Department of Physics, University of Cape Town, Cape Town, South Africa; [(b)]Department of Mechanical Engineering Science, University of Johannesburg, Johannesburg, South Africa; [(c)]School of Physics, University of the Witwatersrand, Johannesburg, South Africa
[34] Department of Physics, Carleton University, Ottawa, ON, Canada
[35] [(a)]Faculté des Sciences Ain Chock, Réseau Universitaire de Physique des Hautes Energies - Université Hassan II, Casablanca, Morocco; [(b)]Faculté des Sciences, Université Ibn-Tofail, Kénitra, Morocco; [(c)]Faculté des Sciences Semlalia, Université Cadi Ayyad, LPHEA-Marrakech, Morocco; [(d)]Faculté des Sciences, Université Mohamed Premier and LPTPM, Oujda, Morocco; [(e)]Faculté des sciences, Université Mohammed V, Rabat, Morocco
[36] CERN, Geneva, Switzerland
[37] Enrico Fermi Institute, University of Chicago, Chicago, IL, USA
[38] LPC, Université Clermont Auvergne, CNRS/IN2P3, Clermont-Ferrand, France
[39] Nevis Laboratory, Columbia University, Irvington, NY, USA
[40] Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark
[41] [(a)]Dipartimento di Fisica, Università della Calabria, Rende, Italy; [(b)]INFN Gruppo Collegato di Cosenza, Laboratori Nazionali di Frascati, Frascati, Italy
[42] Physics Department, Southern Methodist University, Dallas, TX, USA
[43] Physics Department, University of Texas at Dallas, Richardson, TX, USA
[44] National Centre for Scientific Research "Demokritos", Agia Paraskevi, Greece
[45] [(a)]Department of Physics, Stockholm University, Sweden; [(b)]Oskar Klein Centre, Stockholm, Sweden
[46] Deutsches Elektronen-Synchrotron DESY, Hamburg and Zeuthen, Germany
[47] Lehrstuhl für Experimentelle Physik IV, Technische Universität Dortmund, Dortmund, Germany

[48] Institut für Kern- und Teilchenphysik, Technische Universität Dresden, Dresden, Germany
[49] Department of Physics, Duke University, Durham, NC, USA
[50] SUPA - School of Physics and Astronomy, University of Edinburgh, Edinburgh, UK
[51] INFN e Laboratori Nazionali di Frascati, Frascati, Italy
[52] Physikalisches Institut, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany
[53] II. Physikalisches Institut, Georg-August-Universität Göttingen, Göttingen, Germany
[54] Département de Physique Nucléaire et Corpusculaire, Université de Genève, Geneva, Switzerland
[55] [(a)]Dipartimento di Fisica, Università di Genova, Genoa, Italy; [(b)]INFN Sezione di Genova, Genoa, Italy
[56] II. Physikalisches Institut, Justus-Liebig-Universität Giessen, Giessen, Germany
[57] SUPA - School of Physics and Astronomy, University of Glasgow, Glasgow, UK
[58] LPSC, Université Grenoble Alpes, CNRS/IN2P3, Grenoble INP, Grenoble, France
[59] Laboratory for Particle Physics and Cosmology, Harvard University, Cambridge, MA, USA
[60] [(a)]Department of Modern Physics and State Key Laboratory of Particle Detection and Electronics, University of Science and Technology of China, Hefei, China; [(b)]Institute of Frontier and Interdisciplinary Science and Key Laboratory of Particle Physics and Particle Irradiation (MOE), Shandong University, Qingdao, China; [(c)]School of Physics and Astronomy, Shanghai Jiao Tong University, KLPPAC-MoE, SKLPPC, Shanghai, China; [(d)]Tsung-Dao Lee Institute, Shanghai, China
[61] [(a)]Kirchhoff-Institut für Physik, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany; [(b)]Physikalisches Institut, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany
[62] Faculty of Applied Information Science, Hiroshima Institute of Technology, Hiroshima, Japan
[63] [(a)]Department of Physics, Chinese University of Hong Kong, Shatin, N.T., Hong Kong, China; [(b)]Department of Physics, University of Hong Kong, Hong Kong, China; [(c)]Department of Physics and Institute for Advanced Study, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China
[64] Department of Physics, National Tsing Hua University, Hsinchu, Taiwan
[65] Department of Physics, Indiana University, Bloomington, IN, USA
[66] [(a)]INFN Gruppo Collegato di Udine, Sezione di Trieste, Udine, Italy; [(b)]ICTP, Trieste, Italy; [(c)]Dipartimento Politecnico di Ingegneria e Architettura, Università di Udine, Udine, Italy
[67] [(a)]INFN Sezione di Lecce, Lecce, Italy; [(b)]Dipartimento di Matematica e Fisica, Università del Salento, Lecce, Italy
[68] [(a)]INFN Sezione di Milano, Milan, Italy; [(b)]Dipartimento di Fisica, Università di Milano, Milan, Italy
[69] [(a)]INFN Sezione di Napoli, Naples, Italy; [(b)]Dipartimento di Fisica, Università di Napoli, Naples, Italy
[70] [(a)]INFN Sezione di Pavia, Pavia, Italy; [(b)]Dipartimento di Fisica, Università di Pavia, Pavia, Italy
[71] [(a)]INFN Sezione di Pisa, Pisa, Italy; [(b)]Dipartimento di Fisica E. Fermi, Università di Pisa, Pisa, Italy
[72] [(a)]INFN Sezione di Roma, Rome, Italy; [(b)]Dipartimento di Fisica, Sapienza Università di Roma, Rome, Italy
[73] [(a)]INFN Sezione di Roma Tor Vergata, Rome, Italy; [(b)]Dipartimento di Fisica, Università di Roma Tor Vergata, Rome, Italy
[74] [(a)]INFN Sezione di Roma Tre, Rome, Italy; [(b)]Dipartimento di Matematica e Fisica, Università Roma Tre, Rome, Italy
[75] [(a)]INFN-TIFPA, Rome, Italy; [(b)]Università degli Studi di Trento, Trento, Italy
[76] Institut für Astro- und Teilchenphysik, Leopold-Franzens-Universität, Innsbruck, Austria
[77] University of Iowa, Iowa City, IA, USA
[78] Department of Physics and Astronomy, Iowa State University, Ames, IA, USA
[79] Joint Institute for Nuclear Research, Dubna, Russia
[80] [(a)]Departamento de Engenharia Elétrica, Universidade Federal de Juiz de Fora (UFJF), Juiz de Fora, Brazil; [(b)]Universidade Federal do Rio De Janeiro COPPE/EE/IF, Rio de Janeiro, Brazil; [(c)]Universidade Federal de São João del Rei (UFSJ), São João del Rei, Brazil; [(d)]Instituto de Física, Universidade de São Paulo, São Paulo, Brazil
[81] KEK, High Energy Accelerator Research Organization, Tsukuba, Japan
[82] Graduate School of Science, Kobe University, Kobe, Japan
[83] [(a)]AGH University of Science and Technology, Faculty of Physics and Applied Computer Science, Kraków, Poland; [(b)]Marian Smoluchowski Institute of Physics, Jagiellonian University, Kraków, Poland
[84] Institute of Nuclear Physics Polish Academy of Sciences, Kraków, Poland
[85] Faculty of Science, Kyoto University, Kyoto, Japan
[86] Kyoto University of Education, Kyoto, Japan
[87] Research Center for Advanced Particle Physics and Department of Physics, Kyushu University, Fukuoka, Japan
[88] Instituto de Física La Plata, Universidad Nacional de La Plata and CONICET, La Plata, Argentina

[89] Physics Department, Lancaster University, Lancaster, UK
[90] Oliver Lodge Laboratory, University of Liverpool, Liverpool, UK
[91] Department of Experimental Particle Physics, Jožef Stefan Institute and Department of Physics, University of Ljubljana, Ljubljana, Slovenia
[92] School of Physics and Astronomy, Queen Mary University of London, London, UK
[93] Department of Physics, Royal Holloway University of London, Egham, UK
[94] Department of Physics and Astronomy, University College London, London, UK
[95] Louisiana Tech University, Ruston, LA, USA
[96] Fysiska institutionen, Lunds universitet, Lund, Sweden
[97] Centre de Calcul de l'Institut National de Physique Nucléaire et de Physique des Particules (IN2P3), Villeurbanne, France
[98] Departamento de Física Teorica C-15 and CIAFF, Universidad Autónoma de Madrid, Madrid, Spain
[99] Institut für Physik, Universität Mainz, Mainz, Germany
[100] School of Physics and Astronomy, University of Manchester, Manchester, UK
[101] CPPM, Aix-Marseille Université, CNRS/IN2P3, Marseille, France
[102] Department of Physics, University of Massachusetts, Amherst, MA, USA
[103] Department of Physics, McGill University, Montreal, QC, Canada
[104] School of Physics, University of Melbourne, Victoria, Australia
[105] Department of Physics, University of Michigan, Ann Arbor, MI, USA
[106] Department of Physics and Astronomy, Michigan State University, East Lansing, MI, USA
[107] B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Minsk, Belarus
[108] Research Institute for Nuclear Problems of Byelorussian State University, Minsk, Belarus
[109] Group of Particle Physics, University of Montreal, Montreal, QC, Canada
[110] P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia
[111] National Research Nuclear University MEPhI, Moscow, Russia
[112] D.V. Skobeltsyn Institute of Nuclear Physics, M.V. Lomonosov Moscow State University, Moscow, Russia
[113] Fakultät für Physik, Ludwig-Maximilians-Universität München, Munich, Germany
[114] Max-Planck-Institut für Physik (Werner-Heisenberg-Institut), Munich, Germany
[115] Nagasaki Institute of Applied Science, Nagasaki, Japan
[116] Graduate School of Science and Kobayashi-Maskawa Institute, Nagoya University, Nagoya, Japan
[117] Department of Physics and Astronomy, University of New Mexico, Albuquerque, NM, USA
[118] Institute for Mathematics, Astrophysics and Particle Physics, Radboud University Nijmegen/Nikhef, Nijmegen, The Netherlands
[119] Nikhef National Institute for Subatomic Physics and University of Amsterdam, Amsterdam, The Netherlands
[120] Department of Physics, Northern Illinois University, DeKalb, IL, USA
[121] [(a)]Budker Institute of Nuclear Physics and NSU, SB RAS, Novosibirsk, Russia; [(b)]Novosibirsk State University Novosibirsk, Novosibirsk, Russia
[122] Institute for High Energy Physics of the National Research Centre Kurchatov Institute, Protvino, Russia
[123] Institute for Theoretical and Experimental Physics named by A.I. Alikhanov of National Research Centre "Kurchatov Institute", Moscow, Russia
[124] Department of Physics, New York University, New York, NY, USA
[125] Ochanomizu University, Otsuka, Bunkyo-ku, Tokyo, Japan
[126] Ohio State University, Columbus, OH, USA
[127] Faculty of Science, Okayama University, Okayama, Japan
[128] Homer L. Dodge Department of Physics and Astronomy, University of Oklahoma, Norman, OK, USA
[129] Department of Physics, Oklahoma State University, Stillwater, OK, USA
[130] Palacký University, RCPTM, Joint Laboratory of Optics, Olomouc, Czech Republic
[131] Center for High Energy Physics, University of Oregon, Eugene, OR, USA
[132] LAL, Université Paris-Sud, CNRS/IN2P3, Université Paris-Saclay, Orsay, France
[133] Graduate School of Science, Osaka University, Osaka, Japan
[134] Department of Physics, University of Oslo, Oslo, Norway
[135] Department of Physics, Oxford University, Oxford, UK
[136] LPNHE, Sorbonne Université, Université de Paris, CNRS/IN2P3, Paris, France

[137] Department of Physics, University of Pennsylvania, Philadelphia, PA, USA
[138] Konstantinov Nuclear Physics Institute of National Research Centre "Kurchatov Institute", PNPI, St. Petersburg, Russia
[139] Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh, PA, USA
[140] [(a)]Laboratório de Instrumentação e Física Experimental de Partículas - LIP, Lisbon, Portugal; [(b)]Departamento de Física, Faculdade de Ciências, Universidade de Lisboa, Lisbon, Portugal; [(c)]Departamento de Física, Universidade de Coimbra, Coimbra, Portugal; [(d)]Centro de Física Nuclear da Universidade de Lisboa, Lisbon, Portugal; [(e)]Departamento de Física, Universidade do Minho, Braga, Portugal; [(f)]Departamento de Física Teórica y del Cosmos, Universidad de Granada, Granada, Spain; [(g)]Dep Física and CEFITEC of Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Caparica, Portugal; [(h)]Instituto Superior Técnico, Universidade de Lisboa, Lisbon, Portugal
[141] Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic
[142] Czech Technical University in Prague, Prague, Czech Republic
[143] Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic
[144] Particle Physics Department, Rutherford Appleton Laboratory, Didcot, UK
[145] IRFU, CEA, Université Paris-Saclay, Gif-sur-Yvette, France
[146] Santa Cruz Institute for Particle Physics, University of California Santa Cruz, Santa Cruz, CA, USA
[147] [(a)]Departamento de Física, Pontificia Universidad Católica de Chile, Santiago, Chile; [(b)]Universidad Andres Bello, Department of Physics, Santiago, Chile; [(c)]Departamento de Física, Universidad Técnica Federico Santa María, Valparaíso, Chile
[148] Department of Physics, University of Washington, Seattle, WA, USA
[149] Department of Physics and Astronomy, University of Sheffield, Sheffield, UK
[150] Department of Physics, Shinshu University, Nagano, Japan
[151] Department Physik, Universität Siegen, Siegen, Germany
[152] Department of Physics, Simon Fraser University, Burnaby, BC, Canada
[153] SLAC National Accelerator Laboratory, Stanford, CA, USA
[154] Physics Department, Royal Institute of Technology, Stockholm, Sweden
[155] Departments of Physics and Astronomy, Stony Brook University, Stony Brook, NY, USA
[156] Department of Physics and Astronomy, University of Sussex, Brighton, UK
[157] School of Physics, University of Sydney, Sydney, Australia
[158] Institute of Physics, Academia Sinica, Taipei, Taiwan
[159] [(a)]E. Andronikashvili Institute of Physics, Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia; [(b)]High Energy Physics Institute, Tbilisi State University, Tbilisi, Georgia
[160] Department of Physics, Technion, Israel Institute of Technology, Haifa, Israel
[161] Raymond and Beverly Sackler School of Physics and Astronomy, Tel Aviv University, Tel Aviv, Israel
[162] Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece
[163] International Center for Elementary Particle Physics and Department of Physics, University of Tokyo, Tokyo, Japan
[164] Graduate School of Science and Technology, Tokyo Metropolitan University, Tokyo, Japan
[165] Department of Physics, Tokyo Institute of Technology, Tokyo, Japan
[166] Tomsk State University, Tomsk, Russia
[167] Department of Physics, University of Toronto, Toronto, ON, Canada
[168] [(a)]TRIUMF, Vancouver, BC, Canada; [(b)]Department of Physics and Astronomy, York University, Toronto, ON, Canada
[169] Division of Physics and Tomonaga Center for the History of the Universe, Faculty of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan
[170] Department of Physics and Astronomy, Tufts University, Medford, MA, USA
[171] Department of Physics and Astronomy, University of California Irvine, Irvine, CA, USA
[172] Department of Physics and Astronomy, University of Uppsala, Uppsala, Sweden
[173] Department of Physics, University of Illinois, Urbana, IL, USA
[174] Instituto de Física Corpuscular (IFIC), Centro Mixto Universidad de Valencia - CSIC, Valencia, Spain
[175] Department of Physics, University of British Columbia, Vancouver, BC, Canada
[176] Department of Physics and Astronomy, University of Victoria, Victoria, BC, Canada
[177] Fakultät für Physik und Astronomie, Julius-Maximilians-Universität Würzburg, Würzburg, Germany
[178] Department of Physics, University of Warwick, Coventry, UK
[179] Waseda University, Tokyo, Japan
[180] Department of Particle Physics, Weizmann Institute of Science, Rehovot, Israel

[181] Department of Physics, University of Wisconsin, Madison, WI, USA
[182] Fakultät für Mathematik und Naturwissenschaften, Fachgruppe Physik, Bergische Universität Wuppertal, Wuppertal, Germany
[183] Department of Physics, Yale University, New Haven, CT, USA
[184] Yerevan Physics Institute, Yerevan, Armenia

[a] Also at Borough of Manhattan Community College, City University of New York, New York NY, USA
[b] Also at CERN, Geneva, Switzerland
[c] Also at CPPM, Aix-Marseille Université, CNRS/IN2P3, Marseille, France
[d] Also at Département de Physique Nucléaire et Corpusculaire, Université de Genève, Geneva, Switzerland
[e] Also at Departament de Fisica de la Universitat Autonoma de Barcelona, Barcelona, Spain
[f] Also at Departamento de Física, Instituto Superior Tècnico, Universidade de Lisboa, Lisbon, Portugal
[g] Also at Department of Applied Physics and Astronomy, University of Sharjah, Sharjah, United Arab Emirates
[h] Also at Department of Financial and Management Engineering, University of the Aegean, Chios, Greece
[i] Also at Department of Physics and Astronomy, Michigan State University, East Lansing MI, USA
[j] Also at Department of Physics and Astronomy, University of Louisville, Louisville, KY, USA
[k] Also at Department of Physics, Ben Gurion University of the Negev, Beer Sheva, Israel
[l] Also at Department of Physics, California State University, East Bay, USA
[m] Also at Department of Physics, California State University, Fresno, USA
[n] Also at Department of Physics, California State University, Sacramento, USA
[o] Also at Department of Physics, King's College London, London, UK
[p] Also at Department of Physics, St. Petersburg State Polytechnical University, St. Petersburg, Russia
[q] Also at Department of Physics, Stanford University, Stanford CA, USA
[r] Also at Department of Physics, University of Adelaide, Adelaide, Australia
[s] Also at Department of Physics, University of Fribourg, Fribourg, Switzerland
[t] Also at Department of Physics, University of Michigan, Ann Arbor MI, USA
[u] Also at Dipartimento di Matematica, Informatica e Fisica, Università di Udine, Udine, Italy
[v] Also at Faculty of Physics, M.V. Lomonosov Moscow State University, Moscow, Russia
[w] Also at Giresun University, Faculty of Engineering, Giresun, Turkey
[x] Also at Graduate School of Science, Osaka University, Osaka, Japan
[y] Also at Hellenic Open University, Patras, Greece
[z] Also at Institucio Catalana de Recerca i Estudis Avancats, ICREA, Barcelona, Spain
[aa] Also at Institut für Experimentalphysik, Universität Hamburg, Hamburg, Germany
[ab] Also at Institute for Mathematics, Astrophysics and Particle Physics, Radboud University Nijmegen/Nikhef, Nijmegen, The Netherlands
[ac] Also at Institute for Nuclear Research and Nuclear Energy (INRNE) of the Bulgarian Academy of Sciences, Sofia, Bulgaria
[ad] Also at Institute for Particle and Nuclear Physics, Wigner Research Centre for Physics, Budapest, Hungary
[ae] Also at Institute of Particle Physics (IPP), Vancouver, Canada
[af] Also at Institute of Physics, Academia Sinica, Taipei, Taiwan
[ag] Also at Institute of Physics, Azerbaijan Academy of Sciences, Baku, Azerbaijan
[ah] Also at Institute of Theoretical Physics, Ilia State University, Tbilisi, Georgia
[ai] Also at Instituto de Fisica Teorica, IFT-UAM/CSIC, Madrid, Spain
[aj] Also at Joint Institute for Nuclear Research, Dubna, Russia
[ak] Also at LAL, Université Paris-Sud, CNRS/IN2P3, Université Paris-Saclay, Orsay, France
[al] Also at Louisiana Tech University, Ruston LA, USA
[am] Also at LPNHE, Sorbonne Université, Université de Paris, CNRS/IN2P3, Paris, France
[an] Also at Manhattan College, New York NY, USA
[ao] Also at Moscow Institute of Physics and Technology State University, Dolgoprudny, Russia
[ap] Also at National Research Nuclear University MEPhI, Moscow, Russia
[aq] Also at Physics Department, An-Najah National University, Nablus, Palestine
[ar] Also at Physics Dept, University of South Africa, Pretoria, South Africa
[as] Also at Physikalisches Institut, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany

[at] Also at School of Physics, Sun Yat-sen University, Guangzhou, China
[au] Also at The City College of New York, New York NY, USA
[av] Also at The Collaborative Innovation Center of Quantum Matter (CICQM), Beijing, China
[aw] Also at Tomsk State University, Tomsk, and Moscow Institute of Physics and Technology State University, Dolgoprudny, Russia
[ax] Also at TRIUMF, Vancouver BC, Canada
[ay] Also at Universita di Napoli Parthenope, Naples, Italy
* Deceased