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Erratum: Comprehensive analysis of local and nonlocal amplitudes in the $B^0 \to K^{*0}\mu^+\mu^-$ decay

The LHCb collaboration

E-mail: riley.dylan.leslie.henderson@cern.ch

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Due to a small manual rounding error, an incorrect central value was quoted in table 4 for the $\mathcal{C}_{9\tau}$ parameter. The correct result is given by

$$\mathcal{C}_{9\tau} = (-1.2 \pm 2.6 \pm 1.0) \times 10^2 \,, \tag{1}$$

instead of $(-1.0 \pm 2.6 \pm 1.0) \times 10^2$, corresponding to a difference of -0.2×10^2 from the incorrect result. This small difference is approximately 7% relative to the total uncertainty on the $\mathcal{C}_{9\tau}$ parameter and has no significant impact on the results of the analysis or their interpretation.

A small correction is applied to the results of the fit in the signal region to correct the signal amplitude parameters for various biases. This correction includes asymptotic biases from pseudoexperiments reported in table 3 along with additional biases from neglecting exotic charmonium-like contributions as discussed in section 5.2. The correction has already been applied in the parameter results given in tables 4–8. Unfortunately, when producing the confidence region plots for the $\mathcal{C}_{10}$ parameter in figures 6 (top right) and 7 (top left and bottom left) the correction was added with the wrong sign. The result is that the central value for the $\mathcal{C}_{10}$ parameter was shifted by twice the value of the correction in the negative direction. The correct central value is shifted by $+0.18$ relative to the incorrect value, corresponding to 75% of the total uncertainty on the $\mathcal{C}_{10}$ parameter. This mistake only affects the aforementioned plots and not any of the quoted results. In particular, the quoted result for the $\mathcal{C}_{10}$ parameter in table 4, upon which all discussions and interpretations are based, remains the correct value. The updated plots with the correct central value for the $\mathcal{C}_{10}$ parameter are shown in figure 1 for the one-dimensional confidence region and in figure 2 for the two-dimensional confidence regions.

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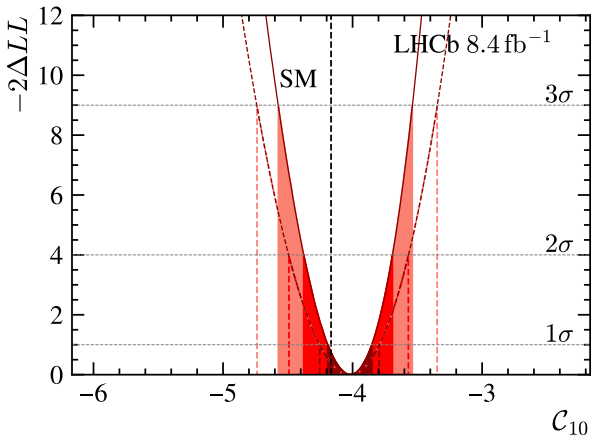

Figure 1. One-dimensional confidence intervals for the $\mathcal{C}_{10}$ Wilson Coefficient, obtained using a likelihood profile method. The shaded regions consider only statistical uncertainties, while the dashed vertical lines indicate the same regions with systematic uncertainties included. The vertical black dashed lines show the Standard Model value.

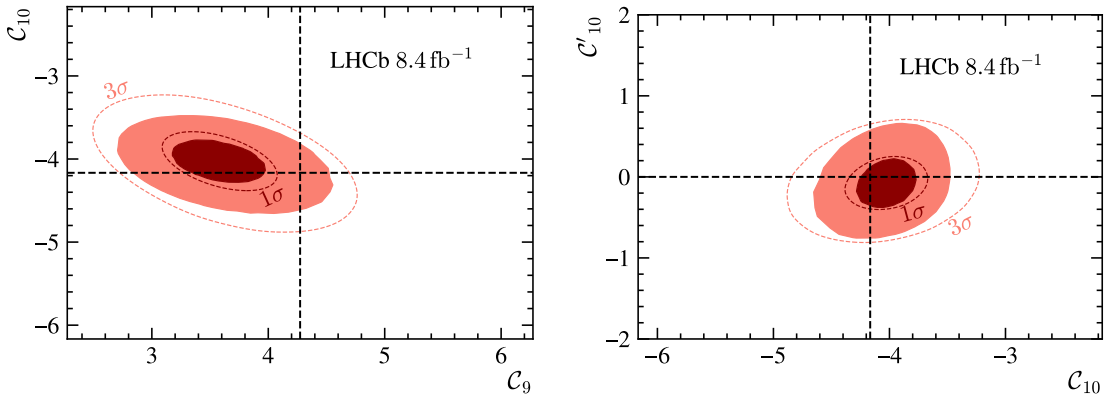

Figure 2. Two-dimensional confidence regions for selected combinations of the Wilson Coefficients, obtained using a likelihood profile method. The shaded regions indicate the 1σ and 3σ confidence regions considering only statistical uncertainties, while the dashed contours indicate the same regions with systematic uncertainties included. The horizontal and vertical dashed lines show the Standard Model values.

Data Availability Statement. This article has no associated data or the data will not be deposited.

Code Availability Statement. This article has no associated code or the code will not be deposited.

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R. Aaij[36], A.S.W. Abdelmotteleb[55], C. Abellan Beteta[49], F. Abudinén[55], T. Ackernley[59], A.A. Adefisoye[67], B. Adeva[45], M. Adinolfi[53], P. Adlarson[79], C. Agapopoulou[13], C.A. Aidala[80], Z. Ajaltouni[11], S. Akar[64], K. Akiba[36], P. Albicocco[26], J. Albrecht[18], F. Alessio[47], M. Alexander[58], Z. Aliouche[61], P. Alvarez Cartelle[54], R. Amalric[15], S. Amato[3], J.L. Amey[53], Y. Amhis[13,47], L. An[6], L. Anderlini[25], M. Andersson[49], A. Andreianov[42], P. Andreola[49], M. Andreotti[24], D. Andreou[67], A. Anelli[29,p], D. Ao[7], F. Archilli[35,v], M. Argenton[24], S. Arguedas Cuendis[9], A. Artamonov[42], M. Artuso[67], E. Aslanides[12], R. Ataide Da Silva[48], M. Atzeni[63], B. Audurier[14], D. Bacher[62], I. Bachiller Perea[10], S. Bachmann[20], M. Bachmayer[48], J.J. Back[55], P. Baladron Rodriguez[45], V. Balagura[14], W. Baldini[24], H. Bao[7], J. Baptista de Souza Leite[59], M. Barbetti[25,m], I.R. Barbosa[68], R.J. Barlow[61], M. Barnyakov[23], S. Barsuk[13], W. Barter[57], M. Bartolini[54], J. Bartz[67], J.M. Basels[16], G. Bassi[33,s], B. Batsukh[5], A. Bay[48], A. Beck[55], M. Becker[18], F. Bedeschi[33], I.B. Bediaga[2], S. Belin[45], V. Bellee[49], K. Belous[42], I. Belov[27], I. Belyaev[34], G. Benane[12], G. Bencivenni[26], E. Ben-Haim[15], A. Berezhnoy[42], R. Bernet[49], S. Bernet Andres[43], A. Bertolin[31], C. Betancourt[49], F. Betti[57], J. Bex[54], Ia. Bezshyiko[49], J. Bhom[39], M.S. Bieker[18], N.V. Biesuz[24], P. Billoir[15], A. Biolchini[36], M. Birch[60], F.C.R. Bishop[10], A. Bitadze[61], A. Bizzeti[], T. Blake[55], F. Blanc[48], J.E. Blank[18], S. Blusk[67], V. Bocharnikov[42], J.A. Boelhauve[18], O. Boente Garcia[14], T. Boettcher[64], A. Bohare[57], A. Boldyrev[42], C.S. Bolognani[76], R. Bolzonella[24,l], N. Bondar[42], F. Borgato[31,q], S. Borghi[61], M. Borsato[29,p], J.T. Borsuk[39], S.A. Bouchiba[48], T.J.V. Bowcock[59], A. Boyer[47], C. Bozzi[24], A. Brea Rodriguez[48], N. Breer[18], J. Brodzicka[39], A. Brossa Gonzalo[45], J. Brown[59], D. Brundu[30], E. Buchanan[57], A. Buonaura[49], L. Buonincontri[31,q], A.T. Burke[61], C. Burr[47], A. Butkevich[42], J.S. Butter[54], J. Buytaert[47], W. Byczynski[47], S. Cadeddu[30], H. Cai[72], R. Calabrese[24,l], S. Calderon Ramirez[9], L. Calefice[44], S. Cali[26], M. Calvi[29,p], M. Calvo Gomez[43], P. Camargo Magalhaes[2,z], J. I. Cambon Bouzas[45], P. Campana[26], D.H. Campora Perez[76], A.F. Campoverde Quezada[7], S. Capelli[29], L. Capriotti[24], R. Caravaca-Mora[9], A. Carbone[23,j], L. Carcedo Salgado[45], R. Cardinale[27,n], A. Cardini[30], P. Carniti[29,p], L. Carus[20], A. Casais Vidal[63], R. Caspary[20], G. Casse[59], J. Castro Godinez[9], M. Cattaneo[47], G. Cavallero[24,47], V. Cavallini[24,l], S. Celani[20], D. Cervenkov[62], S. Cesare[28,o], A.J. Chadwick[59], I. Chahrour[80], M. Charles[15], Ph. Charpentier[47], E. Chatzianagnostou[36], C.A. Chavez Barajas[59], M. Chefdeville[10], C. Chen[12], S. Chen[5], Z. Chen[7], A. Chernov[39], S. Chernyshenko[51], V. Chobanova[78], S. Cholak[48], M. Chrzaszcz[39], A. Chubykin[42], V. Chulikov[42], P. Ciambrone[26], X. Cid Vidal[45], G. Ciezarek[47], P. Cifra[47], P.E.L. Clarke[57], M. Clemencic[47], H.V. Cliff[54], J. Closier[47], C. Cocha Toapaxi[20], V. Coco[47], J. Cogan[12], E. Cogneras[11], L. Cojocariu[41], P. Collins[47], T. Colombo[47], A. Comerma-Montells[44], L. Congedo[22], A. Contu[30], N. Cooke[58], I. Corredoira [45], A. Correia[15], G. Corti[47], J.J. Cottee Meldrum[53], B. Couturier[47], D.C. Craik[49], M. Cruz Torres[2,g], E. Curras Rivera[48], R. Currie[57], C.L. Da Silva[66], S. Dadabaev[42], L. Dai[69], X. Dai[6], E. Dall'Occo[18], J. Dalseno[45], C. D'Ambrosio[47], J. Daniel[11], A. Danilina[42], P. d'Argent[22], A. Davidson[55],

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J.E. Davies[61], A. Davis[61], O. De Aguiar Francisco[61], C. De Angelis[30,k], F. De Benedetti[47], J. de Boer[36], K. De Bruyn[75], S. De Capua[61], M. De Cian[20,47], U. De Freitas Carneiro Da Graca[2,b], E. De Lucia[26], J.M. De Miranda[2], L. De Paula[3], M. De Serio[22,h], P. De Simone[26], F. De Vellis[18], J.A. de Vries[76], F. Debernardis[22], D. Decamp[10], V. Dedu[12], L. Del Buono[15], B. Delaney[63], H.-P. Dembinski[18], J. Deng[8], V. Denysenko[49], O. Deschamps[11], F. Dettori[30,k], B. Dey[74], P. Di Nezza[26], I. Diachkov[42], S. Didenko[42], S. Ding[67], L. Dittmann[20], V. Dobishuk[51], A. D. Docheva[58], C. Dong[4], A.M. Donohoe[21], F. Dordei[30], A.C. dos Reis[2], A. D. Dowling[67], W. Duan[70], P. Duda[77], M.W. Dudek[39], L. Dufour[47], V. Duk[32], P. Durante[47], M. M. Duras[77], J.M. Durham[66], O.D. Durmus[74], A. Dziurda[39], A. Dzyuba[42], S. Easo[56], E. Eckstein[17], U. Egede[1], A. Egorychev[42], V. Egorychev[42], S. Eisenhardt[57], E. Ejopu[61], L. Eklund[79], M. Elashri[64], J. Ellbracht[18], S. Ely[60], A. Ene[41], E. Epple[64], J. Eschle[67], S. Esen[20], T. Evans[61], F. Fabiano[30,k], L.N. Falcao[2], Y. Fan[7], B. Fang[72], L. Fantini[32,r,47], M. Faria[48], K. Farmer[57], D. Fazzini[29,p], L. Felkowski[77], M. Feng[5,7], M. Feo[18,47], M. Fernandez Gomez[45], A.D. Fernez[65], F. Ferrari[23], F. Ferreira Rodrigues[3], M. Ferrillo[49], M. Ferro-Luzzi[47], S. Filippov[42], R.A. Fini[22], M. Fiorini[24,l], K.M. Fischer[62], D.S. Fitzgerald[80], C. Fitzpatrick[61], F. Fleuret[14], M. Fontana[23], L.F. Foreman[61], R. Forty[47], D. Foulds-Holt[54], M. Franco Sevilla[65], M. Frank[47], E. Franzoso[24,l], G. Frau[61], C. Frei[47], D.A. Friday[61], J. Fu[7], Q. Fuehring[18], Y. Fujii[1], T. Fulghesu[15], E. Gabriel[36], G. Galati[22], M.D. Galati[36], A. Gallas Torreira[45], D. Galli[23,j], S. Gambetta[57], M. Gandelman[3], P. Gandini[28], B. Ganie[61], H. Gao[7], R. Gao[62], Y. Gao[8], Y. Gao[6], Y. Gao[8], M. Garau[30,k], L.M. Garcia Martin[48], P. Garcia Moreno[44], J. García Pardiñas[47], K.G. Garg[8], L. Garrido[44], C. Gaspar[47], R.E. Geertsema[36], L.L. Gerken[18], E. Gersabeck[61], M. Gersabeck[61], T. Gershon[55], Z. Ghorbanimoghaddam[53], L. Giambastiani[31,q], F. I. Giasemis[15,e], V. Gibson[54], H.K. Giemza[40], A.L. Gilman[62], M. Giovannetti[26], A. Gioventù[44], P. Gironella Gironell[44], C. Giugliano[24,l], M.A. Giza[39], E.L. Gkougkousis[60], F.C. Glaser[13,20], V.V. Gligorov[15,47], C. Göbel[68], E. Golobardes[43], D. Golubkov[42], A. Golutvin[60,42,47], A. Gomes[2,a,†], S. Gomez Fernandez[44], F. Goncalves Abrantes[62], M. Goncerz[39], G. Gong[4], J. A. Gooding[18], I.V. Gorelov[42], C. Gotti[29], J.P. Grabowski[17], L.A. Granado Cardoso[47], E. Graugés[44], E. Graverini[48,t], L. Grazette[55], G. Graziani[], A. T. Grecu[41], L.M. Greeven[36], N.A. Grieser[64], L. Grillo[58], S. Gromov[42], C. Gu[14], M. Guarise[24], M. Guittiere[13], V. Guliaeva[42], P.A. Günther[20], A.-K. Guseinov[48], E. Gushchin[42], Y. Guz[6,42,47], T. Gys[47], K. Habermann[17], T. Hadavizadeh[1], C. Hadjivasiliou[65], G. Haefeli[48], C. Haen[47], J. Haimberger[47], M. Hajheidari[47], M.M. Halvorsen[47], P.M. Hamilton[65], J. Hammerich[59], Q. Han[8], X. Han[20], S. Hansmann-Menzemer[20], L. Hao[7], N. Harnew[62], M. Hartmann[13], J. He[7,c], M. Hecker[60], F. Hemmer[47], C. Henderson[64], R.D.L. Henderson[1,55], A.M. Hennequin[47], K. Hennessy[59], L. Henry[48], J. Herd[60], P. Herrero Gascon[20], J. Heuel[16], A. Hicheur[3], G. Hijano Mendizabal[49], D. Hill[48], S.E. Hollitt[18], J. Horswill[61], R. Hou[8], Y. Hou[11], N. Howarth[59], J. Hu[20], J. Hu[70], W. Hu[6], X. Hu[4], W. Huang[7], W. Hulsbergen[36], R.J. Hunter[55], M. Hushchyn[42], D. Hutchcroft[59], D. Ilin[42], P. Ilten[64], A. Inglessi[42], A. Iniukhin[42], A. Ishteev[42], K. Ivshin[42], R. Jacobsson[47], H. Jage[16], S.J. Jaimes Elles[46,73], S. Jakobsen[47], E. Jans[36], B.K. Jashal[46], A. Jawahery[65,47],

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V. Jevtic[18], E. Jiang[65], X. Jiang[5,7], Y. Jiang[7], Y.J. Jiang[6], M. John[62], D. Johnson[52], C.R. Jones[54], T.P. Jones[55], S. Joshi[40], B. Jost[47], N. Jurik[47], I. Juszczak[39], D. Kaminaris[48], S. Kandybei[50], M. Kane[57], Y. Kang[4], C. Kar[11], M. Karacson[47], D. Karpenkov[42], A. Kauniskangas[48], J.W. Kautz[64], F. Keizer[47], M. Kenzie[54], T. Ketel[36], B. Khanji[67], A. Kharisova[42], S. Kholodenko[33,47], G. Khreich[13], T. Kirn[16], V.S. Kirsebom[29,p], O. Kitouni[63], S. Klaver[37], N. Kleijne[33,s], K. Klimaszewski[40], M.R. Kmiec[40], S. Koliiev[51], L. Kolk[18], A. Konoplyannikov[42], P. Kopciewicz[38,47], P. Koppenburg[36], M. Korolev[42], I. Kostiuk[36], O. Kot[51], S. Kotriakhova, A. Kozachuk[42], P. Kravchenko[42], L. Kravchuk[42], M. Kreps[55], P. Krokovny[42], W. Krupa[67], W. Krzemien[40], O.K. Kshyvanskyi[51], J. Kubat[20], S. Kubis[77], M. Kucharczyk[39], V. Kudryavtsev[42], E. Kulikova[42], A. Kupsc[79], B.K. Kutsenko[12], D. Lacarrere[47], A. Lai[30], A. Lampis[30], D. Lancierini[54], C. Landesa Gomez[45], J.J. Lane[1], R. Lane[53], C. Langenbruch[20], J. Langer[18], O. Lantwin[42], T. Latham[55], F. Lazzari[33,t], C. Lazzeroni[52], R. Le Gac[12], R. Lefèvre[11], A. Leflat[42], S. Legotin[42], M. Lehuraux[55], E. Lemos Cid[47], O. Leroy[12], T. Lesiak[39], B. Leverington[20], A. Li[4], H. Li[70], K. Li[8], L. Li[61], P. Li[47], P.-R. Li[71], Q. Li[5,7], S. Li[8], T. Li[5,d], T. Li[70], Y. Li[8], Y. Li[5], Z. Lian[4], X. Liang[67], S. Libralon[46], C. Lin[7], T. Lin[56], R. Lindner[47], V. Lisovskyi[48], R. Litvinov[30,47], F.L. Liu[1], G. Liu[70], K. Liu[71], S. Liu[5,7], Y. Liu[57], Y. Liu[71], Y.L. Liu[60], A. Lobo Salvia[44], A. Loi[30], J. Lomba Castro[45], T. Long[54], J.H. Lopes[3], A. Lopez Huertas[44], S. López Soliño[45], C. Lucarelli[25,m], D. Lucchesi[31,q], M. Lucio Martinez[76], V. Lukashenko[36,51], Y. Luo[6], A. Lupato[31], E. Luppi[24,l], K. Lynch[21], X.-R. Lyu[7], G.M. Ma[4], R. Ma[7], S. Maccolini[18], F. Machefert[13], F. Maciuc[41], B. Mack[67], I. Mackay[62], L.M. Mackey[67], L.R. Madhan Mohan[54], M.J. Madurai[52], A. Maevskiy[42], D. Magdalinski[36], D. Maisuzenko[42], M.W. Majewski[38], J.J. Malczewski[39], S. Malde[62], L. Malentacca[47], A. Malinin[42], T. Maltsev[42], G. Manca[30,k], G. Mancinelli[12], C. Mancuso[28,13,o], R. Manera Escalero[44], D. Manuzzi[23], D. Marangotto[28,o], J.F. Marchand[10], R. Marchevski[48], U. Marconi[23], S. Mariani[47], C. Marin Benito[44], J. Marks[20], A.M. Marshall[53], G. Martelli[32,r], G. Martellotti[34], L. Martinazzoli[47], M. Martinelli[29,p], D. Martinez Santos[45], F. Martinez Vidal[46], A. Massafferri[2], R. Matev[47], A. Mathad[47], V. Matiunin[42], C. Matteuzzi[67], K.R. Mattioli[14], A. Mauri[60], E. Maurice[14], J. Mauricio[44], P. Mayencourt[48], M. Mazurek[40], M. McCann[60], L. Mcconnell[21], T.H. McGrath[61], N.T. McHugh[58], A. McNab[61], R. McNulty[21], B. Meadows[64], G. Meier[18], D. Melnychuk[40], F.M. Meng[4], M. Merk[36,76], A. Merli[48], L. Meyer Garcia[65], D. Miao[5,7], H. Miao[7], M. Mikhasenko[17,f], D.A. Milanes[73], A. Minotti[29,p], E. Minucci[67], T. Miralles[11], B. Mitreska[18], D.S. Mitzel[18], A. Modak[56], A. Mödden[18], R.A. Mohammed[62], R.D. Moise[16], S. Mokhnenko[42], T. Mombächer[47], M. Monk[55,1], S. Monteil[11], A. Morcillo Gomez[45], G. Morello[26], M.J. Morello[33,s], M.P. Morgenthaler[20], A.B. Morris[47], A.G. Morris[12], R. Mountain[67], H. Mu[4], Z.M. Mu[6], E. Muhammad[55], F. Muheim[57], M. Mulder[75], K. Müller[49], F. Muñoz-Rojas[9], R. Murta[60], P. Naik[59], T. Nakada[48], R. Nandakumar[56], T. Nanut[47], I. Nasteva[3], M. Needham[57], N. Neri[28,o], S. Neubert[17], N. Neufeld[47], P. Neustroev[42], J. Nicolini[18,13], D. Nicotra[76], E.M. Niel[48], N. Nikitin[42], P. Nogarolli[3], P. Nogga[17], N.S. Nolte[63], C. Normand[53], J. Novoa Fernandez[45], G. Nowak[64], C. Nunez[80], H.N. Nur[58], A. Oblakowska-Mucha[38],

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V. Obraztsov[42], T. Oeser[16], S. Okamura[24,l], A. Okhotnikov[42], O. Okhrimenko[51], R. Oldeman[30,k], F. Oliva[57], M. Olocco[18], C.J.G. Onderwater[76], R.H. O'Neil[57], J.M. Otalora Goicochea[3], P. Owen[49], A. Oyanguren[46], O. Ozcelik[57], A. Padee[40], K.O. Padeken[17], B. Pagare[55], P.R. Pais[20], T. Pajero[47], A. Palano[22], M. Palutan[26], G. Panshin[42], L. Paolucci[55], A. Papanestis[56], M. Pappagallo[22,h], L.L. Pappalardo[24,l], C. Pappenheimer[64], C. Parkes[61], B. Passalacqua[24], G. Passaleva[25], D. Passaro[33,s], A. Pastore[22], M. Patel[60], J. Patoc[62], C. Patrignani[23,j], A. Paul[67], C.J. Pawley[76], A. Pellegrino[36], J. Peng[5,7], M. Pepe Altarelli[26], S. Perazzini[23], D. Pereima[42], H. Pereira Da Costa[66], A. Pereiro Castro[45], P. Perret[11], A. Perro[47], K. Petridis[53], A. Petrolini[27,n], J.P. Pfaller[64], H. Pham[67], L. Pica[33,s], M. Piccini[32], B. Pietrzyk[10], G. Pietrzyk[13], D. Pinci[34], F. Pisani[47], M. Pizzichemi[29,p], V. Placinta[41], M. Plo Casasus[45], F. Polci[15,47], M. Poli Lener[26], A. Poluektov[12], N. Polukhina[42], I. Polyakov[47], E. Polycarpo[3], G.J. Pomery[53], S. Ponce[47], D. Popov[7], S. Poslavskii[42], K. Prasanth[57], C. Prouve[45], V. Pugatch[51], G. Punzi[33,t], S. Qasim[49], Q.Q. Qian[6], W. Qian[7], N. Qin[4], S. Qu[4], R. Quagliani[47], R.I. Rabadan Trejo[55], J.H. Rademacker[53], M. Rama[33], M. Ramírez García[80], V. Ramos De Oliveira[68], M. Ramos Pernas[55], M.S. Rangel[3], F. Ratnikov[42], G. Raven[37], M. Rebollo De Miguel[46], F. Redi[28,i], J. Reich[53], F. Reiss[61], Z. Ren[7], P.K. Resmi[62], R. Ribatti[48], G.R. Ricart[14,81], D. Riccardi[33,s], S. Ricciardi[56], K. Richardson[63], M. Richardson-Slipper[57], K. Rinnert[59], P. Robbe[13], G. Robertson[58], E. Rodrigues[59], E. Rodriguez Fernandez[45], J.A. Rodriguez Lopez[73], E. Rodriguez Rodriguez[45], A. Rogovskiy[56], D.L. Rolf[47], P. Roloff[47], V. Romanovskiy[42], M. Romero Lamas[45], A. Romero Vidal[45], G. Romolini[24], F. Ronchetti[48], T. Rong[6], M. Rotondo[26], S.R. Roy[20], M.S. Rudolph[67], T. Ruf[47], M. Ruiz Diaz[20], R.A. Ruiz Fernandez[45], J. Ruiz Vidal[79,aa], A. Ryzhikov[42], J. Ryzka[38], J.J. Saavedra-Arias[9], J.J. Saborido Silva[45], R. Sadek[14], N. Sagidova[42], D. Sahoo[74], N. Sahoo[52], B. Saitta[30,k], M. Salomoni[29,p,47], C. Sanchez Gras[36], I. Sanderswood[46], R. Santacesaria[34], C. Santamarina Rios[45], M. Santimaria[26,47], L. Santoro[2], E. Santovetti[35], A. Saputi[24,47], D. Saranin[42], A.S. Sarnatskiy[75], G. Sarpis[57], M. Sarpis[61], C. Satriano[34,u], A. Satta[35], M. Saur[6], D. Savrina[42], H. Sazak[16], L.G. Scantlebury Smead[62], A. Scarabotto[18], S. Schael[16], S. Scherl[59], M. Schiller[58], H. Schindler[47], M. Schmelling[19], B. Schmidt[47], S. Schmitt[16], H. Schmitz[17], O. Schneider[48], A. Schopper[47], N. Schulte[18], S. Schulte[48], M.H. Schune[13], R. Schwemmer[47], G. Schwering[16], B. Sciascia[26], A. Sciuccati[47], S. Sellam[45], A. Semennikov[42], T. Senger[49], M. Senghi Soares[37], A. Sergi[27], N. Serra[49], L. Sestini[31], A. Seuthe[18], Y. Shang[6], D.M. Shangase[80], M. Shapkin[42], R.S. Sharma[67], I. Shchemerov[42], L. Shchutska[48], T. Shears[59], L. Shekhtman[42], Z. Shen[6], S. Sheng[5,7], V. Shevchenko[42], B. Shi[7], Q. Shi[7], Y. Shimizu[13], E. Shmanin[42], R. Shorkin[42], J.D. Shupperd[67], R. Silva Coutinho[67], G. Simi[31,q], S. Simone[22,h], N. Skidmore[55], T. Skwarnicki[67], M.W. Slater[52], J.C. Smallwood[62], E. Smith[63], K. Smith[66], M. Smith[60], A. Snoch[36], L. Soares Lavra[57], M.D. Sokoloff[64], F.J.P. Soler[58], A. Solomin[42,53], A. Solovev[42], I. Solovyev[42], R. Song[1], Y. Song[48], Y. Song[4], Y.S. Song[6], F.L. Souza De Almeida[67], B. Souza De Paula[3], E. Spadaro Norella[28,o], E. Spedicato[23], J.G. Speer[18], E. Spiridenkov[42], P. Spradlin[58], V. Sriskaran[47], F. Stagni[47], M. Stahl[47], S. Stahl[47], S. Stanislaus[62], E.N. Stein[47],

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O. Steinkamp[49], O. Stenyakin[42], H. Stevens[18], D. Strekalina[42], Y. Su[7], F. Suljik[62], J. Sun[30], L. Sun[72], Y. Sun[65], D.S. Sundfeld Lima[2], W. Sutcliffe[49], P.N. Swallow[52], F. Swystun[54], A. Szabelski[40], T. Szumlak[38], Y. Tan[4], M.D. Tat[62], A. Terentev[42], F. Terzuoli[33,w,47], F. Teubert[47], E. Thomas[47], D.J.D. Thompson[52], H. Tilquin[60], V. Tisserand[11], S. T'Jampens[10], M. Tobin[5,47], L. Tomassetti[24,l], G. Tonani[28,o,47], X. Tong[6], D. Torres Machado[2], L. Toscano[18], D.Y. Tou[4], C. Trippl[43], G. Tuci[20], N. Tuning[36], L.H. Uecker[20], A. Ukleja[38], D.J. Unverzagt[20], E. Ursov[42], A. Usachov[37], A. Ustyuzhanin[42], U. Uwer[20], V. Vagnoni[23], G. Valenti[23], N. Valls Canudas[47], H. Van Hecke[66], E. van Herwijnen[60], C.B. Van Hulse[45,y], R. Van Laak[48], M. van Veghel[36], G. Vasquez[49], R. Vazquez Gomez[44], P. Vazquez Regueiro[45], C. Vázquez Sierra[45], S. Vecchi[24], J.J. Velthuis[53], M. Veltri[25,x], A. Venkateswaran[48], M. Vesterinen[55], M. Vieites Diaz[47], X. Vilasis-Cardona[43], E. Vilella Figueras[59], A. Villa[23], P. Vincent[15], F.C. Volle[52], D. vom Bruch[12], N. Voropaev[42], K. Vos[76], G. Vouters[10,47], C. Vrahas[57], J. Wagner[18], J. Walsh[33], E.J. Walton[1,55], G. Wan[6], C. Wang[20], G. Wang[8], J. Wang[6], J. Wang[5], J. Wang[4], J. Wang[72], M. Wang[28], N.W. Wang[7], R. Wang[53], X. Wang[8], X. Wang[70], X.W. Wang[60], Y. Wang[6], Z. Wang[13], Z. Wang[4], Z. Wang[28], J.A. Ward[55,1], M. Waterlaat[47], N.K. Watson[52], D. Websdale[60], Y. Wei[6], J. Wendel[78], B.D.C. Westhenry[53], D.J. White[61], M. Whitehead[58], E. Whiter[52], A.R. Wiederhold[55], D. Wiedner[18], G. Wilkinson[62], M.K. Wilkinson[64], M. Williams[63], M.R.J. Williams[57], R. Williams[54], F.F. Wilson[56], W. Wislicki[40], M. Witek[39], L. Witola[20], C.P. Wong[66], G. Wormser[13], S.A. Wotton[54], H. Wu[67], J. Wu[8], Y. Wu[6], K. Wyllie[47], S. Xian[70], Z. Xiang[5], Y. Xie[8], A. Xu[33], J. Xu[7], L. Xu[4], L. Xu[4], M. Xu[55], Z. Xu[11], Z. Xu[7], Z. Xu[5], D. Yang[4], K. Yang[60], S. Yang[7], X. Yang[6], Y. Yang[27,n], Z. Yang[6], Z. Yang[65], V. Yeroshenko[13], H. Yeung[61], H. Yin[8], C.Y. Yu[6], J. Yu[69], X. Yuan[5], E. Zaffaroni[48], M. Zavertyaev[19], M. Zdybal[39], C. Zeng[5,7], M. Zeng[4], C. Zhang[6], D. Zhang[8], J. Zhang[7], L. Zhang[4], S. Zhang[69], S. Zhang[6], Y. Zhang[6], Y.Z. Zhang[4], Y. Zhao[20], A. Zharkova[42], A. Zhelezov[20], S.Z. Zheng[6], X.Z. Zheng[4], Y. Zheng[7], T. Zhou[6], X. Zhou[8], Y. Zhou[7], V. Zhovkovska[55], L.Z. Zhu[7], X. Zhu[4], X. Zhu[8], V. Zhukov[16], J. Zhuo[46], Q. Zou[5,7], D. Zuliani[31,q], G. Zunica[48]

[1] *School of Physics and Astronomy, Monash University, Melbourne, Australia*
[2] *Centro Brasileiro de Pesquisas Físicas (CBPF), Rio de Janeiro, Brazil*
[3] *Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil*
[4] *Center for High Energy Physics, Tsinghua University, Beijing, China*
[5] *Institute Of High Energy Physics (IHEP), Beijing, China*
[6] *School of Physics State Key Laboratory of Nuclear Physics and Technology, Peking University, Beijing, China*
[7] *University of Chinese Academy of Sciences, Beijing, China*
[8] *Institute of Particle Physics, Central China Normal University, Wuhan, Hubei, China*
[9] *Consejo Nacional de Rectores (CONARE), San Jose, Costa Rica*
[10] *Université Savoie Mont Blanc, CNRS, IN2P3-LAPP, Annecy, France*
[11] *Université Clermont Auvergne, CNRS/IN2P3, LPC, Clermont-Ferrand, France*
[12] *Aix Marseille Univ, CNRS/IN2P3, CPPM, Marseille, France*
[13] *Université Paris-Saclay, CNRS/IN2P3, IJCLab, Orsay, France*
[14] *Laboratoire Leprince-Ringuet, CNRS/IN2P3, Ecole Polytechnique, Institut Polytechnique de Paris, Palaiseau, France*
[15] *LPNHE, Sorbonne Université, Paris Diderot Sorbonne Paris Cité, CNRS/IN2P3, Paris, France*

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[16] I. Physikalisches Institut, RWTH Aachen University, Aachen, Germany
[17] Universität Bonn - Helmholtz-Institut für Strahlen und Kernphysik, Bonn, Germany
[18] Fakultät Physik, Technische Universität Dortmund, Dortmund, Germany
[19] Max-Planck-Institut für Kernphysik (MPIK), Heidelberg, Germany
[20] Physikalisches Institut, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany
[21] School of Physics, University College Dublin, Dublin, Ireland
[22] INFN Sezione di Bari, Bari, Italy
[23] INFN Sezione di Bologna, Bologna, Italy
[24] INFN Sezione di Ferrara, Ferrara, Italy
[25] INFN Sezione di Firenze, Firenze, Italy
[26] INFN Laboratori Nazionali di Frascati, Frascati, Italy
[27] INFN Sezione di Genova, Genova, Italy
[28] INFN Sezione di Milano, Milano, Italy
[29] INFN Sezione di Milano-Bicocca, Milano, Italy
[30] INFN Sezione di Cagliari, Monserrato, Italy
[31] INFN Sezione di Padova, Padova, Italy
[32] INFN Sezione di Perugia, Perugia, Italy
[33] INFN Sezione di Pisa, Pisa, Italy
[34] INFN Sezione di Roma La Sapienza, Roma, Italy
[35] INFN Sezione di Roma Tor Vergata, Roma, Italy
[36] Nikhef National Institute for Subatomic Physics, Amsterdam, Netherlands
[37] Nikhef National Institute for Subatomic Physics and VU University Amsterdam, Amsterdam, Netherlands
[38] AGH - University of Krakow, Faculty of Physics and Applied Computer Science, Kraków, Poland
[39] Henryk Niewodniczanski Institute of Nuclear Physics Polish Academy of Sciences, Kraków, Poland
[40] National Center for Nuclear Research (NCBJ), Warsaw, Poland
[41] Horia Hulubei National Institute of Physics and Nuclear Engineering, Bucharest-Magurele, Romania
[42] Affiliated with an institute covered by a cooperation agreement with CERN
[43] DS4DS, La Salle, Universitat Ramon Llull, Barcelona, Spain
[44] ICCUB, Universitat de Barcelona, Barcelona, Spain
[45] Instituto Galego de Física de Altas Enerxías (IGFAE), Universidade de Santiago de Compostela, Santiago de Compostela, Spain
[46] Instituto de Fisica Corpuscular, Centro Mixto Universidad de Valencia - CSIC, Valencia, Spain
[47] European Organization for Nuclear Research (CERN), Geneva, Switzerland
[48] Institute of Physics, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland
[49] Physik-Institut, Universität Zürich, Zürich, Switzerland
[50] NSC Kharkiv Institute of Physics and Technology (NSC KIPT), Kharkiv, Ukraine
[51] Institute for Nuclear Research of the National Academy of Sciences (KINR), Kyiv, Ukraine
[52] University of Birmingham, Birmingham, U.K.
[53] H.H. Wills Physics Laboratory, University of Bristol, Bristol, U.K.
[54] Cavendish Laboratory, University of Cambridge, Cambridge, U.K.
[55] Department of Physics, University of Warwick, Coventry, U.K.
[56] STFC Rutherford Appleton Laboratory, Didcot, U.K.
[57] School of Physics and Astronomy, University of Edinburgh, Edinburgh, U.K.
[58] School of Physics and Astronomy, University of Glasgow, Glasgow, U.K.
[59] Oliver Lodge Laboratory, University of Liverpool, Liverpool, U.K.
[60] Imperial College London, London, U.K.
[61] Department of Physics and Astronomy, University of Manchester, Manchester, U.K.
[62] Department of Physics, University of Oxford, Oxford, U.K.
[63] Massachusetts Institute of Technology, Cambridge, MA, U.S.A.
[64] University of Cincinnati, Cincinnati, OH, U.S.A.
[65] University of Maryland, College Park, MD, U.S.A.
[66] Los Alamos National Laboratory (LANL), Los Alamos, NM, U.S.A.
[67] Syracuse University, Syracuse, NY, U.S.A.

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[68] Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Rio de Janeiro, Brazil, associated to [3]
[69] School of Physics and Electronics, Hunan University, Changsha City, China, associated to [8]
[70] Guangdong Provincial Key Laboratory of Nuclear Science, Guangdong-Hong Kong Joint Laboratory of Quantum Matter, Institute of Quantum Matter, South China Normal University, Guangzhou, China, associated to [4]
[71] Lanzhou University, Lanzhou, China, associated to [5]
[72] School of Physics and Technology, Wuhan University, Wuhan, China, associated to [4]
[73] Departamento de Fisica , Universidad Nacional de Colombia, Bogota, Colombia, associated to [15]
[74] Eotvos Lorand University, Budapest, Hungary, associated to [47]
[75] Van Swinderen Institute, University of Groningen, Groningen, Netherlands, associated to [36]
[76] Universiteit Maastricht, Maastricht, Netherlands, associated to [36]
[77] Tadeusz Kosciuszko Cracow University of Technology, Cracow, Poland, associated to [39]
[78] Universidade da Coruña, A Coruna, Spain, associated to [43]
[79] Department of Physics and Astronomy, Uppsala University, Uppsala, Sweden, associated to [58]
[80] University of Michigan, Ann Arbor, MI, U.S.A., associated to [67]
[81] Departement de Physique Nucleaire (SPhN), Gif-Sur-Yvette, France

[a] Universidade de Brasília, Brasília, Brazil
[b] Centro Federal de Educacão Tecnológica Celso Suckow da Fonseca, Rio De Janeiro, Brazil
[c] Hangzhou Institute for Advanced Study, UCAS, Hangzhou, China
[d] School of Physics and Electronics, Henan University , Kaifeng, China
[e] LIP6, Sorbonne Université, Paris, France
[f] Excellence Cluster ORIGINS, Munich, Germany
[g] Universidad Nacional Autónoma de Honduras, Tegucigalpa, Honduras
[h] Università di Bari, Bari, Italy
[i] Universita degli studi di Bergamo, Bergamo, Italy
[j] Università di Bologna, Bologna, Italy
[k] Università di Cagliari, Cagliari, Italy
[l] Università di Ferrara, Ferrara, Italy
[m] Università di Firenze, Firenze, Italy
[n] Università di Genova, Genova, Italy
[o] Università degli Studi di Milano, Milano, Italy
[p] Università degli Studi di Milano-Bicocca, Milano, Italy
[q] Università di Padova, Padova, Italy
[r] Università di Perugia, Perugia, Italy
[s] Scuola Normale Superiore, Pisa, Italy
[t] Università di Pisa, Pisa, Italy
[u] Università della Basilicata, Potenza, Italy
[v] Università di Roma Tor Vergata, Roma, Italy
[w] Università di Siena, Siena, Italy
[x] Università di Urbino, Urbino, Italy
[y] Universidad de Alcalá, Alcalá de Henares, Spain
[z] Facultad de Ciencias Fisicas, Madrid, Spain
[aa] Department of Physics/Division of Particle Physics, Lund, Sweden
[†] Deceased

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