

The DUNE Collaboration

T. Cai¹³⁷, B. Abi¹²³, R. Acciarri⁵², M. A. Acero⁸, M. Adamowski⁵², C. Adams¹⁷³, D. L. Adams¹⁵, P. Adamson⁵², M. Adinolfi¹⁴, Z. Ahmad¹⁶³, L. Aizawa⁸¹, G. Alan⁴¹, C. H. Albright⁵², T. Alion¹⁵⁰, M. Alrashed⁸⁷, C. Alt⁴⁶, J. Anderson⁵, K. Anderson⁵², C. Andreopoulos^{97,139}, M. P. Andrews⁵², R. A. Andrews⁵², J. dos Anjos¹⁷, A. Ankowski¹⁶⁵, J. Anthony²⁶, M. Antonello⁵⁶, S. Antusch¹⁰, A. Aranda Fernandez³³, A. Ariga¹¹, T. Ariga¹¹, D. Aristizabal Sierra¹⁵², E. Arrieta Diaz¹⁴⁸, J. Asaadi¹⁵⁵, M. Ascencio¹³³, D. M. Asner¹²⁴, M. S. Athar², M. Auger¹¹, A. Aurisano³¹, V. Aushev⁹², D. Autiero⁷⁷, F. Azfar¹²³, A. Back⁸⁰, J. J. Back¹⁶⁸, H. O. Back¹²⁴, C. Backhouse⁹⁸, P. Baesso¹⁴, X. Bai¹⁴⁵, M. Baird¹⁶⁵, A. B. Balantekin¹⁷¹, S. Balasubramanian¹⁷³, B. Baller⁵², P. Ballett⁴⁵, B. Bambah⁶⁴, H. Band¹⁷³, M. Bansal¹²⁷, S. Bansal¹²⁷, G. Barenboim⁶⁶, G. J. Barker¹⁶⁸, C. Barnes¹⁰⁶, G. Barr¹²³, J. Barranco Monarca⁵⁸, N. Barros¹³⁰, J. L. Barrow¹⁵³, A. Bashyal¹²¹, M. Bass¹⁵, F. Bay¹⁵⁸, K. Bays²⁵, J. L. Bazo¹³³, J. F. Beacom¹²⁰, B. R. Behera¹²⁷, G. Bellettini¹³¹, V. Bellini²⁷, O. Beltramello¹⁹, D. Belver²⁰, N. Benekos¹⁹, P. A. Benetti¹²⁸, A. Bercellie¹³⁷, E. Berman⁵², P. Bernardini¹⁶², H. Berns²², R. Bernstein⁵², S. Bertolucci⁷², M. Betancourt⁵², V. Bhatnagar¹²⁷, m. Bhattacharjee⁶⁹, B. Bhuyan⁶⁹, S. Biagi⁹⁴, J. Bian²³, K. Biery⁵², B. Bilki⁷⁹, M. Bishai¹⁵, A. Bitadze¹⁰³, T. Blackburn¹⁵⁰, A. Blake⁹⁵, F. d. M. Blaszczyk¹³, E. Blaufuss¹⁰⁴, G. C. Blazey¹¹¹, M. Blennow⁸⁶, E. Blucher²⁹, V. Bocean⁵², F. Boffelli¹²⁸, J. Boissevain⁹⁹, S. Bolognesi¹⁸, T. Bolton⁸⁷, M. Bonesini⁷¹, T. Boone³⁵, A. Booth¹⁵⁰, C. Booth¹⁴¹, S. Bordini^{19,19}, T. Boschi⁴⁵, P. Bour³⁸, B. Bourguille⁶⁵, S. B. Boyd¹⁶⁸, D. Boyden¹¹¹, J. Bračinik¹², D. Brailsford⁹⁵, A. Brandt¹⁵⁵, J. Bremer¹⁹, S. J. Brice⁵², C. Bromberg¹⁰⁷, G. Brooijmans³⁶, J. Brooke¹⁴, G. Brown¹⁵⁵, G. Brunetti^{52,126}, N. Buchanan³⁵, H. Budd¹³⁷, D. Caiulo⁷⁷, P. Calafiura⁹⁶, A. Calatayud¹³³, J. Calcutt¹⁰⁷, C. Callahan¹³⁰, E. Calligarich¹²⁸, E. Calvo²⁰, L. Camilleri³⁶, A. Caminata⁵⁴, M. Campanelli⁹⁸, G. Cancelo⁵², K. Cankocak⁷⁹, C. Cantini⁴⁶, D. Caratelli³⁶, M. F. Carneiro¹²¹, I. Caro Terrazas³⁵, T. J. Carroll¹⁵⁶, M. Cascella⁹⁸, E. Catano-Mur⁸⁰, M. Cavali-Sforza⁶⁵, F. Cavanna^{52,173}, E. Cazzato¹⁰, S. Centro¹²⁶, G. Cerati⁵², A. Cervera Villanueva⁶⁶, T. Cervi¹²⁸, M. Chalifour¹⁹, A. Chappuis⁹³, A. Chatterjee¹⁵⁵, S. Chattopadhyay^{52,111}, S. Chattopadhyay¹⁶³, L. Chaussard⁷⁷, A. E. Chavarria Rodriguez¹¹², J. Chaves¹³⁰, S. Chembra⁶⁴, H. Chen¹⁵, M. Chen²³, S. Chen¹⁵⁷, D. Cherdack³⁵, C. Chi³⁶, S. Childress⁵², K. Cho⁹⁰, S. Choubey⁵⁹, B. C. Choudhary⁴², D. Christian⁵², G. Christodoulou⁹⁷, C. Christofferson¹⁴⁵, E. Church¹²⁴, P. Clarke⁴⁷, T. E. Coan¹⁴⁸, A. Cocco¹¹³, P. Cole⁷⁴, E. Collett⁵², G. Collin¹⁰⁵, E. Conley⁴⁴, J. M. Conrad¹⁰⁵, M. Convery¹³⁸, R. Corey¹⁴⁵, L. Corwin¹⁴⁵, P. Cotte¹⁸, L. Cremonesi⁹⁸, J. I. Crespo-Anadón³⁶, J. Creus Prats¹⁹, E. Cristaldo¹⁶¹, P. Crivelli⁴⁶, D. Cronin-Hennessy¹¹⁰, C. Crowley⁵², C. Cuesta²⁰, A. Curioni⁷¹, D. Cussans¹⁴, H. da Motta¹⁷, D. Dale⁷⁴, T. Davenne¹³⁹, E. Davenport¹⁵⁵, G. S. Davies⁷⁶, J. Davies¹⁵⁰, S. Davini⁵⁴, J. Dawson¹, K. De¹⁵⁵, I. De Bonis⁹³, A. De Gouvea¹¹⁸, P. C. de Holanda⁴⁸, I. De Icaza¹⁵⁰, P. De Jong¹¹⁷, P. De Lurgio⁵, S. De Rijck¹⁵⁶, A. De Roeck¹⁹, J. J. de Vries²⁶, M. P. Decowski¹¹⁷, P. Dedin-Neto⁴⁸, A. Delbart¹⁸, D. Delepine⁵⁸, M. Delgado⁴, D. Demuth¹⁶⁴, Z. Deng¹⁵⁷, S. Dennis⁹⁷, C. Densham¹³⁹, R. Dharmapalan⁵, N. Dhingra¹²⁷, S. Di Domizio⁵⁴, S. Di Luise⁶⁵, L. Di Noto⁵², M. Diamantopoulou⁷, F. Diaz¹³³, J. S. Diaz⁷⁶, G. Diaz Bautista¹³⁷, P. Ding⁵², C. Distefano⁹⁴, M. Diwan¹⁵, Z. Djurcic⁵, N. Dokania¹⁴⁹, M. J. Dolinski⁴³, R. Dong⁷⁹, D. Douglas¹⁰⁷, G. Drake⁵, D. Duchesneau⁹³, K. Duffy⁵², K. Dugas¹⁰⁰, B. Dung¹⁵⁶, D. Dutta⁵⁹, M. Duvernois¹⁷¹, H. Duyang¹⁴³, D. A. Dwyer⁹⁶, S. Dye⁶¹, A. S. Dyshkant¹¹¹, S. Dytman¹³², M. Eads¹¹¹, B. Eberly¹³⁸, D. Edmunds¹⁰⁷, J. Eisch⁸⁰, A. Elagin²⁹, S. Elliott⁹⁹, W. M. Ellsworth⁶², M. Elnimr²³, S. Emery¹⁸, S. Eno¹⁰⁴, A. Ereditato¹¹, C. O. Escobar⁵², L. Escudero Sanchez²⁶, J. J. Evans¹⁰³, K. Fahey⁵², A. Falcone¹⁵⁵, L. Falk¹⁵⁰, A. Farbin¹⁵⁵, C. Farnese¹²⁶, Y. Farzan⁷³, M. Fasoli⁷¹, A. Fava⁵², J. Felix⁵⁸, P. Fernandez Menendez⁶⁶, E. Fernandez-Martinez¹⁰², F. Ferraro⁵⁴, L. Fields⁵², A. Filkins¹⁷⁰, F. Filthaut¹¹⁷, A. Finch⁹⁵, O. Fischer¹⁰, M. Fitton¹³⁹, R. Fitzpatrick¹⁰⁶, W. Flanagan⁴⁰, B.T. Fleming¹⁷³, R. Flight¹³⁷, T. Forest⁷⁴, J. Fowler⁴⁴, W. Fox⁷⁶, J. Franc³⁸, P. Franchini¹⁶⁸, J. Freeman⁵², J. Freestone¹⁰³, D. Friant⁷⁴, J. Fried¹⁵, A. Friedland¹³⁸, S. Fuess⁵², B. Fujikawa⁹⁶, I. Furic⁵³, A. Gago¹³³, H. Gallagher¹⁵⁹, A. Gallego²⁰, S. Galymov⁷⁷, E. Gamberini¹⁹, T. Gamble¹⁴¹, R. Gandhi⁵⁹, R. Gandrajula¹⁰⁷, S. Gao¹⁵, D. Garcia-Gamez¹⁰³, S. Gardiner²², D. Gastler¹³, J. Gehrlein¹⁰², A. Gendotti⁴⁶, Z. Ghorbani-Moghaddam²², A. Ghosh¹⁵², D. Gibin¹²⁶, I. Gil-Botella²⁰, A. K. Giri⁷⁰, S. Glavin¹³⁰, D. Goeldi¹¹, O. Gogota⁹², M. Gold¹¹⁵, S. Gollapinni¹⁵³, K. Gollwitzer⁵², R. A. Gomes⁵⁵, L. Gomez¹⁴⁰, J. J. Gomez Cadenas⁶⁶, H. Gong¹⁵⁷, F. Gonnella¹², J. A. Gonzalez-Cuevas¹⁶¹, M. C. Goodman⁵, D. Gorbunov⁷⁸, S. Goswami¹²⁵, E. Goudzovski¹², N. Graf¹³², N. Graf¹³⁸, M. Graham¹³⁸, E. Gramellini¹⁷³, R. Gran¹⁰⁹, C. Grant¹³, N. Grant¹⁶⁸, V. Greco²⁷, S. Green²⁶, H. Greenlee⁵², L. Greenler¹⁷¹, J. Greer¹⁴, C. Griffith¹⁵⁰, M. Groh^{76,31}, J. Grudzinski⁵, K. Grzelak¹⁶⁶, G. Guanghua¹⁵⁷, E. Guardincerri⁹⁹, V. Guarino⁵, G. P. Guedes⁵¹, R. Guenette⁶⁰, A. Guglielmi¹²⁶, B. Guo¹⁴³, S. Gupta⁸², V. Gupta⁶⁹, K. K. Guthikonda⁸⁹, R. M. Gutierrez⁴, P. Guzowski¹⁰³, M. M. Guzzo⁴⁸, A. T. Habig¹⁰⁹, A. Hackenberg¹⁷³, R. W. Hackenberg¹⁵, H. Hadavand¹⁵⁵, R. Haenni¹¹, A. Hahn⁵², M. D. Haigh¹⁶⁸, T. Haines⁹⁹, T. Hamernik⁵², P. Hamilton¹⁵¹, J. Han¹³², T. Handler¹⁵³, S. Hans¹⁵, D. Harris⁵², J. Hartnell¹⁵⁰, T. Hasegawa⁸⁵, R. Hatcher⁵²,

A. Hatzikoutelis¹⁵³, S. Hays⁵², E. Hazen¹³, M. Headley¹⁴⁶, A. Heavey⁵², K. M. Heeger¹⁷³, J. Heise¹⁴⁶,
 K. Hennessy⁹⁷, S. Henry¹³⁷, A. Hernandez⁴, J. Hernandez-Garcia¹⁰², J. Hewes¹⁰³, J. Hignight¹⁰⁷, A. Higuera⁶²,
 T. Hill⁷⁴, S. Hillier¹², A. Himmel⁵², C. Hohl¹⁰, A. Holin⁹⁸, E.W. Hoppe¹²⁴, S. Horikawa⁴⁶, G. Horton-Smith⁸⁷,
 M. Hostert⁴⁵, A. Hourlier¹⁰⁵, B. Howard⁷⁶, J. Huang¹⁵⁶, M. Huang⁸⁰, J. Hugon¹⁰⁰, P. Hurh⁵², J. Hylene⁵²,
 J. Insler⁴³, G. Introzzi¹²⁸, A. Ioannisian¹⁷⁴, A. Izmaylov⁶⁶, D. E. Jaffe¹⁵, C. James⁵², E. James⁵², C. H. Jang³⁰,
 F. Jediny³⁸, Y. S. Jeong⁶, A. Jhingan¹²⁷, S. Jiménez²⁰, C. Johnson³⁵, M. Johnson⁵², R. Johnson³¹, J. Johnstone⁵²,
 B. Jones¹⁵⁵, S. Jones⁹⁸, J. Joshi¹⁵, M. Joshua¹⁵⁹, H. Jostlein⁵², C. K. Jung¹⁴⁹, T. Junk⁵², A. Kaboth¹³⁹,
 I. Kadenko⁹², F. Kamiya⁵⁰, Y. Kamyshkov¹⁵³, G. Karagiorgi³⁶, D. Karasavvas⁷, Y. Karyotakis⁹³, S. Kasai⁹¹,
 M. Katie¹⁵⁹, P. Kaur¹²⁷, B. Kayser⁵², N. Kazaryan¹⁷⁴, E. Kearns¹³, P.T.Keener¹³⁰, E. Kemp⁴⁸, C. Kendziora⁵²,
 W. Ketchum⁵², S. H. Kettell¹⁵, M. Khabibullin⁷⁸, A. Khotjantsev⁷⁸, B. Kirby¹⁵, M. Kirby⁵², J. Klein¹³⁰,
 Y. J. Ko³⁰, T. Kobilarcik⁵², B. Kocaman¹⁵⁸, L.W. Koerner⁶², S. Kohn^{21,96}, G. Koizumi⁵², H. Konari⁸¹,
 A. Kopylov⁷⁸, M. Kordosky¹⁷⁰, L. Kormos⁹⁵, T. Kosci⁷⁷, U. Kose^{19,11}, V. A. Kosteletzky⁷⁶, M. Kramer^{21,96},
 F. Krennrich⁸⁰, I. Kreslo¹¹, K. Kriesel¹⁷¹, W. Kropp²³, Y. Kudenko⁷⁸, V. A. Kudryavtsev¹⁴¹, S. Kulagin⁷⁸,
 A. Kumar¹²⁷, J. Kumar⁶¹, L. Kumar¹²⁷, S. Kumbhare¹⁵⁵, C. Kuruppu¹⁴³, V. Kus³⁸, T. Kutter¹⁰⁰, K. Lande¹³⁰,
 C. Lane⁴³, K. Lang¹⁵⁶, T. Langford¹⁷³, F. Lanni¹⁵, C. Lastoria²⁰, A. Laundrie¹⁷¹, T. Le¹⁵⁹, J. Learned⁶¹,
 P. Lebrun⁵², D. Lee⁹⁹, G. Lehmann Miotto¹⁹, M. A. Leigui de Oliveira⁵⁰, Q. Z. Li⁵², S. Li¹⁵, S. W. Li¹³⁸, X. Li¹⁴⁹,
 Y. Li¹⁵, Z. Li⁴⁴, H. Liao⁸⁷, C. S. Lin⁹⁶, S. Lin³⁵, R. Linehan¹³⁸, J. Link¹⁶⁵, Z. Liptak³⁴, D. Lissauer¹⁵,
 L. Littenberg¹⁵, B. R. Littlejohn⁶⁷, J. Liu¹⁴⁴, T. Liu¹⁴⁸, S. Lockwitz⁵², N. Lockyer⁵², T. Loew⁹⁶, M. Lokajicek¹⁶,
 L. LoMonaco²⁷, K. Long⁷⁵, K. Loo⁸⁴, J. P. Lopez³⁴, D. Lorca¹¹, T. Lord¹⁶⁸, M. Losada⁴, J. M. LoSecco¹¹⁹,
 W. Louis⁹⁹, M. Luethi¹¹, K. B. Luk^{21,96}, T. Lundin⁵², X. Luo¹⁷³, N. Lurkin¹², T. Lux⁶⁵, V. P. Luzio⁵⁰, J. Lykken⁵²,
 J. Maalampi⁸⁴, A. A. Machado⁵⁰, C. T. Macias⁷⁶, J. R. Macier⁵², R. MacLellan¹⁴⁴, S. Macocci⁵², S. Magill⁵,
 G. Mahler¹⁵, K. Mahn¹⁰⁷, M. Malek¹⁴¹, J. Maloney³⁹, F. Mammoliti²⁷, S. K. Mandal⁴², S. Mandodi⁶⁴,
 L. Manenti⁹⁸, S. Manly¹³⁷, A. Mann¹⁵⁹, A. Marchionni⁵², W. Marciano¹⁵, D. Marfatia⁶¹, M. P. Maria Paulina¹⁴⁹,
 C. Mariani¹⁶⁵, J. Maricic⁶¹, F. Marinho¹⁶⁰, A. D. Marino³⁴, M. Marshak¹¹⁰, C. M. Marshall⁹⁶, J. Marshall²⁶,
 J. Marteau⁷⁷, J. Martin-Albo¹²³, D. A. Martinez Caicedo⁶⁷, H. Martinez¹⁴⁰, N. Martinez¹³⁵, H. R. Mary⁷⁹,
 A. Mastbaum²⁹, M. Masud⁶⁶, S. Matsuno⁶¹, J. Matthews¹⁰⁰, C. Mauger¹³⁰, K. Mavrokoridis⁹⁷, R. Mazza⁷¹,
 A. Mazzacane⁵², E. Mazzucato¹⁸, N. McCauley⁹⁷, E. McCluskey⁵², N. McConkey¹⁴¹, K.T. McDonald¹³⁴,
 K. S. McFarland¹³⁷, C. McGivern⁵², A. M. McGowan¹³⁷, C. McGrew¹⁴⁹, S. R. McGuinness¹¹⁹, R. McKeown¹⁷⁰,
 D. McNulty⁷⁴, R. McTaggart¹⁴⁷, V. C. N. Meddage⁸⁷, A. Mefodiev⁷⁸, P. Mehta⁸³, D. Mei¹⁴⁴, O. Mena⁶⁶,
 S. Menary¹⁷⁵, D. P. Mendez¹⁵⁰, H. Mendez¹³⁵, A. Menegolli¹²⁸, G. Meng¹²⁶, M. Messier⁷⁶, W. Metcalf¹⁰⁰,
 M. Mewes⁷⁶, H. Meyer¹⁶⁹, T. Miao⁵², J. Migenda¹⁴¹, R. Milincic⁶¹, J. Miller¹⁵², W. Miller¹¹⁰, C. Milne⁷⁴,
 O. Mineev⁷⁸, O. G. Miranda³², C. S. Mishra⁵², S. R. Mishra¹⁴³, A. Mislivec¹¹⁰, B. Mitrica⁶³, D. Mladenov¹⁹,
 I. Mocioiu¹²⁹, K. Moffat⁴⁵, R. Mohanta⁶⁴, N. Mokhov⁵², J. Molina¹⁶¹, L. Molina Bueno⁴⁶, C. Montanari^{128,19},
 D. Montanari^{52,19}, J. Moon¹⁰⁵, M. Mooney³⁵, C. D. Moore⁵², D. Moreno⁴, B. Morgan¹⁶⁸, G. F. Moroni⁵²,
 C. Morris⁶², W. Morse¹⁵, C. Mossey⁵², C. A. Moura⁵⁰, J. Mousseau¹⁰⁶, L. Mualem²⁵, M. Muether¹⁶⁹, S. Mufson⁷⁶,
 F. Muheim⁴⁷, H. Muramatsu¹¹⁰, S. Murphy⁴⁶, J. Musser⁷⁶, J. Nachtman⁷⁹, Y. Nakajima⁹⁶, M. Nalbandyan¹⁷⁴,
 D. Naples¹³², S. Narita⁸¹, G. Navarro⁴, J. Navarro⁸, D. Navas-Nicols²⁰, N. Nayak²³, M. Needham⁴⁷, K. Negishi⁸¹,
 J. Nelson¹⁷⁰, M. Nessi¹⁹, D. Newbold¹⁴, M. Newcomer¹³⁰, R. Nichol⁹⁸, T. C. Nicholls¹³⁹, E. Niner⁵², A. Norman⁵²,
 B. Norris⁵², J. Norris⁷⁴, P. Novakova¹⁵, P. Novella⁶⁶, E. Nowak¹⁹, J. Nowak⁹⁵, M. S. Nunes⁴⁸, H. O’Keeffe⁹⁵,
 M. Oberling⁵, A. Olivares Del Campo⁴⁵, R. Oliveira⁴⁸, A. Olivier¹³⁷, Y. Onel⁷⁹, Y. Onishchuk⁹², B. T. Oregui¹⁵⁶,
 T. Ovsjannikova⁷⁸, S. Ozturk¹⁹, L. Pagani²², S. Pakvasa⁶¹, O. Palamara^{52,173}, J. Paley⁵², M. Pallavicini⁵⁴,
 C. Palomares²⁰, J. Palomino¹⁴⁹, E. Pantic²², A. Paolo⁶², V. Paolone¹³², V. Papadimitriou⁵², R. Papaleo⁹⁴,
 S. Paramesvaran¹⁴, J. Park¹⁶⁵, S. Parke⁵², Z. Parsa¹⁵, S. Pascoli⁴⁵, J. Pasternak⁷⁵, J. Pater¹⁰³, R. B. Patterson²⁵,
 S. J. Patton⁹⁶, T. Patzak¹, A. Paudel⁸⁷, B. Paulos¹⁷¹, L. Paulucci⁵⁰, Z. Pavlovic⁵², G. Pawloski¹¹⁰, P. Payam⁷³,
 D. Payne⁹⁷, V. Pec¹⁴¹, S. J. M. Peeters¹⁵⁰, E. Pennacchio⁷⁷, A. Penzo⁷⁹, G. N. Perdue⁵², O. L. G. Peres⁴⁸,
 O. Ravinez¹¹², L. Periale⁴⁶, K. Petridis¹⁴, R. Petti¹⁴³, A. Petukhov¹⁴⁵, C. Peña Rincon¹⁴⁰, P. Picchi¹²⁸,
 L. Pickering¹⁰⁷, C. Pidcott¹⁴¹, F. Pietropaolo^{126,19}, P. Plonski¹⁶⁷, R. Plunkett⁵², R. Poling¹¹⁰, M. Popovic⁵²,
 R. Pordes⁵², S. Pordes⁵², M. Potekhin¹⁵, R. Potenza²⁷, B. Potukuchi⁸², S. Poudel⁶², J. Pozimski⁷⁵, R. Preece¹³⁹,
 O. Prokofiev⁵², N. Pruthi¹²⁷, P. Przewlocki¹¹⁴, F. Psihas⁷⁶, N. Pumulo¹⁴⁵, D. Pushka⁵², K. Qi¹⁴⁹, X. Qian¹⁵,
 J. L. Raaf⁵², R. Raboanary³, V. Radeka¹⁵, J. Rademacker¹⁴, V. Radescu¹⁹, B. Radics⁴⁶, A. Radovic¹⁷⁰,
 A. Rafique⁸⁷, M. Rajaoalisoa³, I. Rakhno⁵², H. T. Rakotondramanana³, L. Rakotondravohitra³,
 Y. A. Ramachers¹⁶⁸, R. Rameika⁵², M. A. Ramirez Delgado⁵⁸, J. Ramsey⁹⁹, A. Rappoldi¹²⁸, G. Raselli¹²⁸,
 P. Ratoff⁹⁵, H. Razafinime³, B. Rebel⁵², D. Redondo²⁰, C. Regenfus⁴⁶, T. Rehak⁴³, J. Reichenbacher¹⁴⁵,
 S. D. Reitzner⁵², A. Remoto²⁰, A. Renshaw⁶², S. Rescia¹⁵, F. Resnati¹⁹, A. Reynolds¹²³, G. Riccobene⁹⁴,
 L. Rice¹¹¹, K. Rielage⁹⁹, K. Riesselmann⁵², Y. Rigaut⁴⁶, D. Rivera¹³⁰, M. Robinson¹⁴¹, L. Rochester¹³⁸, M. Roda⁹⁷,
 O. B. Rodrigues⁵⁵, P. Rodrigues¹²³, B. Roe¹⁰⁶, A. J. Roeth⁴⁴, R. M. Roser⁵², M. Ross-Lonergan⁴⁵, M. Rossella¹²⁸,
 J. Rout⁸³, S. Roy⁵⁹, A. Rubbia⁴⁶, C. Rubbia⁵⁷, R. Rucinski⁵², C. Rudolph von Rohr¹¹, B. Russell¹⁷³, J. Russell¹³⁸,
 D. Ruterbories¹³⁷, B. Rybolt¹⁵³, R. Saakyan⁹⁸, K. Sachdev⁵², N. Sahu⁷⁰, P. Sala^{108,19}, N. Samios¹⁵, F. Sanchez⁶⁵,
 M.C. Sanchez⁸⁰, C. Sandoval⁴, W.R. Sands¹³⁴, S. Santana¹³⁵, R. Santorelli²⁰, L. M. Santos⁴⁸, G. Santucci¹⁴⁹,

N. Saoulidou⁷, P. Sapienza⁹⁴, I. Sarcevic⁶, G. Savage⁵², A. Scaramelli¹²⁸, A. Scarpelli¹, T. Schaffer¹⁰⁹, H. Schellman¹²¹, P. Schlabach⁵², C. M. Schloesser⁴⁶, D. Schmitz²⁹, J. Schneps¹⁵⁹, K. Scholberg⁴⁴, A. Schukraft⁵², E. Segreto⁴⁸, S. Sehrawat⁵⁹, A. Seljak⁶¹, I. Seong²³, J. A. Sepulveda-Quiroz⁸⁰, A. Sergi¹², F. Sergiampietri⁴⁶, D. Sessummes¹⁵⁵, K. Sexton¹⁵, L. Sexton-Kennedy⁵², M. H. Shaevitz³⁶, J. Shahi¹²⁷, S. Shahsavarani¹⁵⁵, P. Shanahan⁵², H. r. Sharma⁸², R. Sharma¹⁵, R. K. Sharma¹³⁶, T. Shaw⁵², I. Shoemaker¹⁴⁴, D. Shooltz¹⁰⁷, R. Shrock¹⁴⁹, N. Simos¹⁵, J. Sinclair¹¹, G. Sinev⁴⁴, I. Singh¹²⁷, J. Singh¹²⁷, J. Singh¹⁰¹, J. Singh¹⁰¹, V. Singh⁹, R. Sivos¹⁹, F. W. Sippach³⁶, K. Siyeon³⁰, A. Smith⁴⁴, A. Smith²⁶, E. Smith⁷⁶, P. Smith⁷⁶, J. Smolik³⁸, M. Smy²³, E. Snider⁵², P. Snopok⁶⁷, J. Sobczyk¹⁷², H. Sobel²³, M. Soderberg¹⁵¹, C. J. Solano Salinas¹¹², N. Solomey¹⁶⁹, W. Sondheim⁹⁹, M. Sorel⁶⁶, J. A. Soto²⁰, A. Sousa³¹, K. Soustruznik²⁸, M. Spanu¹²⁸, J. Spitz¹⁰⁶, N. J. C. Spooner¹⁴¹, R. Staley¹², M. Stancari⁵², D. Stefan^{19,114}, A. Stefanik⁵², H. M. Steiner^{96,21}, J. Stewart¹⁵, J. Stock¹⁴⁵, S. Stoica⁶³, J. Stone¹³, J. Strait⁵², M. Strait¹¹⁰, T. Strauss⁵², S. Striganov⁵², A. Stuart³³, R. Sulej¹¹⁴, G. Sullivan¹⁰⁴, M. Sultana¹³⁷, Y. Sun⁶¹, A. Surdo¹⁶², V. Susic¹⁰, L. Suter⁵², C. M. Sutura²⁷, R. Svoboda²², B. Szczerbinska¹⁵⁴, A. M. Szec¹⁰³, S. Söldner-Rembold¹⁰³, N. Tagg¹²², R. Talaga⁵, B. Tapia Oregui¹⁵⁶, S. Tariq⁵², E. Tatar⁷⁴, R. Tayloe⁷⁶, K. Terao¹³⁸, G. Testera⁵⁴, A. Thea¹³⁹, M. Thiesse¹⁴¹, J. Thompson¹⁴¹, L. F. Thompson¹⁴¹, M. Thomson²⁶, C. Thorn¹⁵, D. Tiedt¹⁴⁵, A. Timilsina¹⁵, S. C. Timm⁵², J. Todd³¹, A. Tonazzo¹, T. Tope⁵², F. R. Torres⁴⁸, M. Torti¹²⁸, M. Tortola⁶⁶, F. Tortorici²⁷, M. Toups⁵², C. Touramanis⁹⁷, J. Trevor²⁵, M. Tripathi²², I. Tropin⁵², W. H. Trzaska⁸⁴, Y. Tsai¹³⁸, K. V. Tsang¹³⁸, A. Tsaris⁵², R. Tsenov¹⁴², S. Tufanli¹⁷³, C. Tull⁹⁶, J. Turner⁴⁵, M. Tzanov¹⁰⁰, E. Tziaferi⁷, Y. Uchida⁷⁵, S. Uma Sankar⁶⁸, J. Urheim⁷⁶, T. Usher¹³⁸, M. R. Vagins^{88,23}, P. Vahle¹⁷⁰, G. A. Valdivieso⁴⁹, E. Valencia¹⁷⁰, L. Valerio⁵², Z. Vallari¹⁴⁹, J. Valle⁶⁶, R. Van Berg¹³⁰, R. Van de Water⁹⁹, F. Varanini¹²⁶, G. Varner⁶¹, J. Vasel⁷⁶, G. Vasseur¹⁸, K. Vaziri⁵², G. Velev⁵², S. Ventura¹²⁶, A. Verdugo²⁰, M. A. Vermeulen¹¹⁷, E. Vernon¹⁵, T. Viant⁴⁶, T. V. Vieira⁴⁸, C. Vignoli⁵⁶, S. Vihonen⁸⁴, C. Vilela¹⁴⁹, B. Viren¹⁵, P. Vokac³⁸, T. Vrba³⁸, T. Wachala¹¹⁶, D. Wahl¹⁷¹, C. Wallace¹⁴, M. Wallbank¹⁴¹, B. Wang¹⁴⁸, H. Wang²⁴, J. Wang²², T. Wang⁴⁵, Y. Wang¹⁴⁹, Z. Wang¹⁵⁷, T.K. Warburton⁸⁰, D. Warner³⁵, M. Wascko⁷⁵, D. Waters⁹⁸, A. Watson¹², A. Weber^{139,123}, M. Weber¹¹, W. Wei¹⁴⁴, A. Weinstein⁸⁰, D. Wenman¹⁷¹, M. Wetstein⁸⁰, A. White¹⁵⁵, L. H. Whitehead¹⁹, D. Whittington¹⁵¹, K.L. Wierman¹²⁴, M. J. Wilking¹⁴⁹, C. Wilkinson¹¹, J. Willhite⁵², Z. Williams¹⁵⁵, P. Wilson⁵², R. J. Wilson³⁵, P. Wittich³⁷, J. Wolcott¹⁵⁹, H. H. Wong^{21,96}, T. Wongjirad¹⁵⁹, K. Wood¹⁴⁹, L.S. Wood¹²⁴, E. Worcester¹⁵, M. Worcester¹⁵, S. Wu⁴⁶, W. Xu¹⁴⁴, C. Yanagisawa¹⁴⁹, G. Yang¹⁴⁹, S. Yang³¹, T. Yang⁵², J. Ye¹⁴⁸, M. Yeh¹⁵, N. Yershov⁷⁸, K. Yonehara⁵², L. Yoshimura¹⁶¹, B. Yu¹⁵, J. Yu¹⁵⁵, J. Zalesak¹⁶, L. Zambelli⁹³, B. Zamorano¹⁵⁰, A. Zani¹⁹, K. Zaremba¹⁶⁷, L. Zazueta¹⁷⁰, G.P. Zeller⁵², J. Zennamo²⁹, C. Zhang¹⁵, C. Zhang¹⁴⁴, M. Zhao¹⁵, Y. Zhou⁴⁵, G. Zhu¹²⁰, E. D. Zimmerman³⁴, M. Zito¹⁸, J. Zuklin¹⁶, V. Zutshi¹¹¹, and R. Zwaska⁵²

¹APC - University Paris Diderot, Sorbonne Paris Cité, 75205 Paris, France

²Aligarh Muslim University, Department of Physics, Aligarh-202002, India

³University of Antananarivo, BP 566, Antananarivo 101, Madagascar

⁴Universidad Antonio Nariño, Cra 3 Este No 47A-15, Bogota, Colombia

⁵Argonne National Laboratory, Argonne, IL 60439, USA

⁶University of Arizona, 1118 E. Fourth Street Tucson, AZ 85721, USA

⁷University of Athens, University Campus, Zografou GR 157 84, Greece

⁸Universidad del Atlantico, Km 7 antigua via Puerto Colombia, Barranquilla, Colombia

⁹Banaras Hindu University, Department of Physics, Varanasi - 221 005, India

¹⁰University of Basel, Klingelbergstrasse 82, CH-4056 Basel, Switzerland

¹¹University of Bern, Sidlerstrasse 5, CH-3012 Bern, Switzerland

¹²University of Birmingham, Edgbaston, Birmingham B15 2TT, United Kingdom

¹³Boston University, Boston, MA 02215, USA

¹⁴University of Bristol, H. H. Wills Physics Laboratory, Tyndall Avenue Bristol BS8 1TL, United Kingdom

¹⁵Brookhaven National Laboratory, Upton, NY 11973, USA

¹⁶Institute of Physics CAS, Na Slovance 2, 182 21 Praha 8, Czech Republic

¹⁷Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, RJ 22290-180, Brazil

¹⁸CEA/Saclay, IRFU (Institut de Recherche sur les Lois Fondamentales de l'Univers), F-91191 Gif-sur-Yvette CEDEX, France

¹⁹CERN, European Organization for Nuclear Research 1211 Geneve 23, Switzerland, CERN

²⁰CIEMAT, Avenida Complutense 40, E-28040 Madrid, Spain

²¹University of California (Berkeley), Berkeley, CA 94720, USA

²²University of California (Davis), Davis, CA 95616, USA

²³University of California (Irvine), Irvine, CA 92697, USA

²⁴University of California (Los Angeles), Los Angeles, CA 90095, USA

²⁵California Institute of Technology, Pasadena, CA 91125, USA

²⁶University of Cambridge, JJ Thomson Avenue, Cambridge CB3 0HE, United Kingdom

- ²⁷ *University of Catania, INFN Sezione di Catania, Via Santa Sofia 64, I-95123 Catania, Italy*
- ²⁸ *Institute of Particle and Nuclear Physics of the Faculty of Mathematics and Physics of the Charles University in Prague, V Holešovičkách 747/2, 180 00 Praha 8-Libeň, Czech Republic*
- ²⁹ *University of Chicago, Chicago, IL 60637, USA*
- ³⁰ *Chung-Ang University, Dongjak-Gu, Seoul 06974, South Korea*
- ³¹ *University of Cincinnati, Cincinnati, OH 45221, USA*
- ³² *Cinvestav, Apdo. Postal 14-740, 07000 Ciudad de Mexico, Mexico*
- ³³ *Universidad de Colima, 340 Colonia Villa San Sebastian Colima, Colima, Mexico*
- ³⁴ *University of Colorado (Boulder), Boulder, CO 80309, USA*
- ³⁵ *Colorado State University, Fort Collins, CO 80523, USA*
- ³⁶ *Columbia University, New York, NY 10027, USA*
- ³⁷ *Cornell University, Ithaca, NY 14853, USA*
- ³⁸ *Czech Technical University in Prague, Břehová 78/7, 115 19 Prague 1, Czech Republic*
- ³⁹ *Dakota State University, Madison, SD 57042, USA*
- ⁴⁰ *University of Dallas, Irving, TX 75062-4736, USA*
- ⁴¹ *Daresbury Laboratory, Daresbury Warrington, Cheshire WA4 4AD, United Kingdom*
- ⁴² *University of Delhi, Department of Physics and Astrophysics, Delhi 110007, India*
- ⁴³ *Drexel University, Philadelphia, PA 19104, USA*
- ⁴⁴ *Duke University, Durham, NC 27708, USA*
- ⁴⁵ *University of Durham, South Road, Durham DH1 3LE, United Kingdom*
- ⁴⁶ *ETH Zurich, Institute for Particle Physics, Zurich, Switzerland*
- ⁴⁷ *Edinburgh University, Edinburgh EH8 9YL, UK, United Kingdom*
- ⁴⁸ *Universidade Estadual de Campinas, Campinas - SP, 13083-970, Brazil*
- ⁴⁹ *Universidade Federal de Alenas, Poços de Caldas - MG, CEP 37715-400, Brazil*
- ⁵⁰ *Universidade Federal do ABC, 5001 Santo André - SP, 09210-580, Brazil*
- ⁵¹ *UEFS/DFIS - State University of Feira de Santana, Feira de Santana - BA, 44036-900, Brazil*
- ⁵² *Fermi National Accelerator Laboratory, Batavia, IL 60510, USA*
- ⁵³ *University of Florida, PO Box 118440 Gainesville, FL 32611-8440,*
- ⁵⁴ *University of Genova, , Italy*
- ⁵⁵ *Universidade Federal de Goias, Goias, 74690-900, Brazil*
- ⁵⁶ *Laboratori Nazionali del Gran Sasso, I-67010 Assergi, AQ, Italy*
- ⁵⁷ *Gran Sasso Science Institute, Viale Francesco Crispi 7, L'Aquila, Italy*
- ⁵⁸ *Universidad de Guanajuato, Gto., C.P.37000, Mexico*
- ⁵⁹ *Harish-Chandra Research Institute, Jhansi, Allahabad 211 019, India*
- ⁶⁰ *Harvard University, 17 Oxford St. Cambridge, MA 02138, USA*
- ⁶¹ *University of Hawaii, Honolulu, HI 96822, USA*
- ⁶² *University of Houston, Houston, TX 77204, USA*
- ⁶³ *Horia Hulubei National Institute of Physics and Nuclear Engineering, Strada Reactorului 30, Măgurele, Romania*
- ⁶⁴ *University of Hyderabad, Gachibowli, Hyderabad - 500 046, India*
- ⁶⁵ *Institut de Fd'Altes Energies, Barcelona i.e. Catalan ersitat Autònoma de Barcelona, E-08193 Cerdanyola del Valles, Barcelona, Spain*
- ⁶⁶ *Instituto de Física Corpuscular, C/Catedrático Jose Beltrán, 2 E-46980 Paterna (Valencia), Spain*
- ⁶⁷ *Illinois Institute of Technology, Chicago, IL 60616, USA*
- ⁶⁸ *Indian Institute of Technology Bombay, Department of Physics Mumbai 400 076, India*
- ⁶⁹ *Indian Institute of Technology Guwahati, Guwahati, 781 039, India*
- ⁷⁰ *Indian Institute of Technology Hyderabad, Hyderabad, 502285, India*
- ⁷¹ *INFN Sezione di Milano Bicocca, Piazza della Scienza 3, 20126 Milano, Italy*
- ⁷² *INFN-Bologna, , Italy*
- ⁷³ *Institute for Research in Fundamental Sciences (IPM), Farmanieh St. Tehran, 19538-33511, Iran*
- ⁷⁴ *Idaho State University, Department of Physics 921 South 8th Ave. Pocatello, ID 83209, USA*
- ⁷⁵ *Imperial College of Science Technology & Medicine, Blackett Laboratory Prince Consort Road, London SW7 2BZ, United Kingdom*
- ⁷⁶ *Indiana University, Bloomington, IN 47405, USA*
- ⁷⁷ *Institut de Physique Nucleaire de Lyon (IPNL), Rue E. Fermi 4 69622 Villeurbanne, France*
- ⁷⁸ *Institute for Nuclear Research of the Russian Academy of Sciences (INR RAS), 60th October Anniversary Prosp. 7a Moscow, 117312, Russia*
- ⁷⁹ *University of Iowa, Department of Physics and Astronomy 203 Van Allen Hall Iowa City, IA 52242, USA*
- ⁸⁰ *Iowa State University, Ames, Iowa 50011, USA*
- ⁸¹ *Iwate University, Morioka, Iwate 020-8551, Japan*

- ⁸² *University of Jammu, Physics Department, JAMMU-180006, India*
- ⁸³ *Jawaharlal Nehru University, Jawaharlal Nehru University, New Delhi 110067, India*
- ⁸⁴ *University of Jyväskylä, P.O. Box 35, FI-40014, Finland*
- ⁸⁵ *High Energy Accelerator Research Organization (KEK), Ibaraki, 305-0801, Japan*
- ⁸⁶ *KTH Royal Institute of Technology, Roslagstullsbacken 21, SE-106 91 Stockholm, Sweden*
- ⁸⁷ *Kansas State University, Manhattan, KS 66506, USA*
- ⁸⁸ *Kavli Institute for the Physics and Mathematics of the Universe (WPI), Kashiwa, Chiba 277-8583, Japan*
- ⁸⁹ *K L University, Guntur - 522 502, AP, India*
- ⁹⁰ *Korea Institute for Science and Technology Information, Daejeon, 34141, South Korea*
- ⁹¹ *National Institute of Technology, Kure College, Hiroshima, 737-8506, Japan*
- ⁹² *Kyiv National University, 64, 01601 Kyiv, Ukraine*
- ⁹³ *Laboratoire d'Annecy-le-Vieux de Physique des Particules, CNRS/IN2P3 and Université Savoie Mont Blanc, 74941 Annecy-le-Vieux, France*
- ⁹⁴ *Laboratori Nazionali del Sud, , Italy*
- ⁹⁵ *Lancaster University, Bailrigg, Lancaster LA1 4YB, United Kingdom*
- ⁹⁶ *Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA*
- ⁹⁷ *University of Liverpool, L69 7ZE, Liverpool, United Kingdom*
- ⁹⁸ *University College London, London, WC1E 6BT, United Kingdom*
- ⁹⁹ *Los Alamos National Laboratory, Los Alamos, NM 87545, USA*
- ¹⁰⁰ *Louisiana State University, Baton Rouge, LA 70803, USA*
- ¹⁰¹ *University of Lucknow, Lucknow 226007, Uttar Pradesh, India*
- ¹⁰² *Madrid Autonoma University, Ciudad Universitaria de Cantoblanco 28049 Madrid, Spain*
- ¹⁰³ *University of Manchester, Oxford Road, Manchester M13 9PL, United Kingdom*
- ¹⁰⁴ *University of Maryland, College Park, MD 20742, USA*
- ¹⁰⁵ *Massachusetts Institute of Technology, Cambridge, MA 02139, USA*
- ¹⁰⁶ *University of Michigan, Ann Arbor, MI 48109, USA*
- ¹⁰⁷ *Michigan State University, East Lansing, MI 48824, USA*
- ¹⁰⁸ *INFN Milano, INFN Sezione di Milano, I-20133 Milano, Italy*
- ¹⁰⁹ *University of Minnesota (Duluth), Duluth, MN 55812, USA*
- ¹¹⁰ *University of Minnesota (Twin Cities), Minneapolis, MN 55455, USA*
- ¹¹¹ *Northern Illinois University, Department of Physics DeKalb, Illinois 60115, USA*
- ¹¹² *Universidad Nacional de Ingeniería, Av. Tupac Amaru 210, Lima 25, Peru*
- ¹¹³ *Istituto Nazionale di Fisica Nucleare - Sezione di Napoli, Complesso Universitario di Monte S. Angelo, I-80126 Napoli, Italy*
- ¹¹⁴ *National Centre for Nuclear Research, A. Soltana 7, 05 400 Otwock, Poland*
- ¹¹⁵ *University of New Mexico, 1919 Lomas Blvd. N.E. Albuquerque, NM 87131, USA*
- ¹¹⁶ *H. Niewodniczanski Institute of Nuclear Physics, Polish Academy of Sciences, Cracow, Poland*
- ¹¹⁷ *Nikhef National Institute of Subatomic Physics, Science Park, Amsterdam, Netherlands*
- ¹¹⁸ *Northwestern University, Evanston, IL 60208, USA*
- ¹¹⁹ *University of Notre Dame, Notre Dame, IN 46556, USA*
- ¹²⁰ *Ohio State University, 191 W. Woodruff Ave. Columbus, OH 43210, USA*
- ¹²¹ *Oregon State University, Corvallis, OR 97331, USA*
- ¹²² *Otterbein University, One South Grove Street Westerville, OH 43081, USA*
- ¹²³ *University of Oxford, Oxford, OX1 3RH, United Kingdom*
- ¹²⁴ *Pacific Northwest National Laboratory, Richland, WA 99352, USA*
- ¹²⁵ *Physical Research Laboratory, Ahmedabad 380 009, India*
- ¹²⁶ *University of Padova, Dip. Fisica e Astronomia G. Galilei and INFN Sezione di Padova, I-35131 Padova, Italy*
- ¹²⁷ *Panjab University, Chandigarh, 160014 U.T., India*
- ¹²⁸ *University of Pavia, INFN Sezione di Pavia, I-27100 Pavia, Italy*
- ¹²⁹ *Pennsylvania State University, University Park, PA 16802, USA*
- ¹³⁰ *University of Pennsylvania, Philadelphia, PA 19104, USA*
- ¹³¹ *University di Pisa, Theor. Division; Largo B. Pontecorvo 3, Ed. B-C; I-56127 Pisa, Italy*
- ¹³² *University of Pittsburgh, Pittsburgh, PA 15260, USA*
- ¹³³ *Pontificia Universidad Católica del Perú, Apartado 1761, Lima, Peru*
- ¹³⁴ *Princeton University, Princeton, New Jersey 08544, USA*
- ¹³⁵ *University of Puerto Rico, Mayaguez, 00681, USA*
- ¹³⁶ *Punjab Agricultural University, Department of Math. Stat. & Physics, Ludhiana 141004, India*
- ¹³⁷ *University of Rochester, Rochester, NY 14627, USA*
- ¹³⁸ *SLAC National Acceleratory Laboratory, Menlo Park, CA 94025, USA*

- ¹³⁹ *STFC Rutherford Appleton Laboratory, OX11 0QX Harwell Campus, Didcot, United Kingdom*
- ¹⁴⁰ *University Sergio Arboleda, Cll 74 -14 -14 11022 Bogotá, Colombia*
- ¹⁴¹ *University of Sheffield, Department of Physics and Astronomy, Sheffield S3 7RH, United Kingdom*
- ¹⁴² *University of Sofia, 5 James Bourchier Blvd., Sofia, Bulgaria*
- ¹⁴³ *University of South Carolina, Columbia, SC 29208, USA*
- ¹⁴⁴ *University of South Dakota, Vermillion, SD 57069, USA*
- ¹⁴⁵ *South Dakota School of Mines and Technology, Rapid City, SD 57701, USA*
- ¹⁴⁶ *South Dakota Science And Technology Authority, Lead, SD 57754, USA*
- ¹⁴⁷ *South Dakota State University, Brookings, SD 57007, USA*
- ¹⁴⁸ *Southern Methodist University, Dallas, TX 75275, USA*
- ¹⁴⁹ *Stony Brook University, Stony Brook, New York 11794, USA*
- ¹⁵⁰ *University of Sussex, Brighton, BN1 9RH, United Kingdom*
- ¹⁵¹ *Syracuse University, Syracuse, NY 13244, USA*
- ¹⁵² *Universidad Tecnica Federico Santa Maria, Department de Fisica Universidad Tecnica Federico Santa Maria
Casino 110-V, Valparaiso, Chile*
- ¹⁵³ *University of Tennessee at Knoxville, TN, 37996, USA*
- ¹⁵⁴ *Texas A&M University (Corpus Christi), Corpus Christi, TX 78412, USA*
- ¹⁵⁵ *University of Texas (Arlington), Arlington, TX 76019, USA*
- ¹⁵⁶ *University of Texas (Austin), Austin, TX 78712, USA*
- ¹⁵⁷ *Tsinghua University, Haidian District, Beijing 100084, China*
- ¹⁵⁸ *TUBITAK Space Technologies Research Institute, TR-06800, Ankara, Turkey*
- ¹⁵⁹ *Tufts University, Medford, MA 02155, USA*
- ¹⁶⁰ *Universidade Federal de Sao Carlos, Araras-São Paulo, 13604-900, Brazil*
- ¹⁶¹ *Universidad Nacional de Asuncion, 585540/2 Interno 1068 CC: 910, Asunción, Paraguay*
- ¹⁶² *Università del Salento - INFN, , Italy*
- ¹⁶³ *Variable Energy Cyclotron Centre, 1/AF, Bidhannagar Kolkata - 700 064 West Bengal, India*
- ¹⁶⁴ *Valley City State University, Valley City, ND 58072, USA*
- ¹⁶⁵ *Virginia Tech, Blacksburg, VA 24060, USA*
- ¹⁶⁶ *University of Warsaw, Faculty of Physics ul. Pasteura 5 02-093 Warsaw, Poland*
- ¹⁶⁷ *Warsaw University of Technology, Nowowiejska 15/19 00-665 Warszawa Poland, Poland*
- ¹⁶⁸ *University of Warwick, Coventry CV4 7AL, United Kingdom*
- ¹⁶⁹ *Wichita State University, Physics Division 1845 Fairmount St. Wichita, KS 67260, USA*
- ¹⁷⁰ *College of William and Mary, Williamsburg, VA 23187, USA*
- ¹⁷¹ *University of Wisconsin (Madison), Madison, WI 53706, USA*
- ¹⁷² *Wroclaw University, Plac Maxa Borny 9, 50-204 Wroclaw, Poland*
- ¹⁷³ *Yale University, New Haven, CT 06520, USA*
- ¹⁷⁴ *Yerevan Institute for Theoretical Physics and Modeling, Halabian Str. 34; Yerevan 0036, Armenia*
- ¹⁷⁵ *York University, Physics and Astronomy Department, 4700 Keele St. Toronto M3J 1P3, Canada*

2017-11-18