

# The Elsevier Title

F. P. An<sup>a</sup>, A. B. Balantekin<sup>b</sup>, H. R. Band<sup>c</sup>, M. Bishai<sup>d</sup>, S. Blyth<sup>e,f</sup>, D. Cao<sup>g</sup>, G. F. Cao<sup>h</sup>, J. Cao<sup>h</sup>, W. R. Cen<sup>h</sup>, Y. L. Chan<sup>i</sup>, J. F. Chang<sup>h</sup>, L. C. Chang<sup>j</sup>, Y. Chang<sup>f</sup>, H. S. Chen<sup>h</sup>, Q. Y. Chen<sup>k</sup>, S. M. Chen<sup>l</sup>, Y. X. Chen<sup>m</sup>, Y. Chen<sup>n</sup>, J. H. Cheng<sup>j</sup>, J.-H. Cheng<sup>j</sup>, J. Cheng<sup>k</sup>, Y. P. Cheng<sup>h</sup>, Z. K. Cheng<sup>o</sup>, J. J. Cherwinka<sup>b</sup>, M. C. Chu<sup>i</sup>, A. Chukanov<sup>p</sup>, J. P. Cummings<sup>q</sup>, J. de Arcos<sup>r</sup>, Z. Y. Deng<sup>h</sup>, X. F. Ding<sup>h</sup>, Y. Y. Ding<sup>h</sup>, M. V. Diwan<sup>d</sup>, M. Dolgareva<sup>p</sup>, J. Dove<sup>s</sup>, D. A. Dwyer<sup>t</sup>, W. R. Edwards<sup>t</sup>, R. Gill<sup>d</sup>, M. Gonchar<sup>p</sup>, G. H. Gong<sup>l</sup>, H. Gong<sup>l</sup>, M. Grassi<sup>h</sup>, W. Q. Gu<sup>u</sup>, M. Y. Guan<sup>h</sup>, L. Guo<sup>l</sup>, R. P. Guo<sup>h</sup>, X. H. Guo<sup>v</sup>, Z. Guo<sup>l</sup>, R. W. Hackenburg<sup>d</sup>, R. Han<sup>m</sup>, S. Hans<sup>d</sup>, M. He<sup>h</sup>, K. M. Heeger<sup>c</sup>, Y. K. Heng<sup>h</sup>, A. Higuera<sup>w</sup>, Y. K. Hor<sup>x</sup>, Y. B. Hsiung<sup>e</sup>, B. Z. Hu<sup>e</sup>, T. Hu<sup>h</sup>, W. Hu<sup>h</sup>, E. C. Huang<sup>s</sup>, H. X. Huang<sup>y</sup>, X. T. Huang<sup>k</sup>, P. Huber<sup>x</sup>, W. Huo<sup>z</sup>, G. Hussain<sup>l</sup>, D. E. Jaffe<sup>d</sup>, P. Jaffke<sup>x</sup>, K. L. Jen<sup>j</sup>, S. Jetter<sup>h</sup>, X. P. Ji<sup>aa,l</sup>, X. L. Ji<sup>h</sup>, J. B. Jiao<sup>k</sup>, R. A. Johnson<sup>ab</sup>, J. Joshi<sup>d</sup>, L. Kang<sup>ac</sup>, S. H. Kettell<sup>d</sup>, S. Kohn<sup>ad</sup>, M. Kramer<sup>t,ad</sup>, K. K. Kwan<sup>i</sup>, M. W. Kwok<sup>i</sup>, T. Kwok<sup>ae</sup>, T. J. Langford<sup>c</sup>, K. Lau<sup>w</sup>, L. Lebanowski<sup>l</sup>, J. Lee<sup>t</sup>, J. H. C. Lee<sup>ae</sup>, R. T. Lei<sup>ac</sup>, R. Leitner<sup>af</sup>, J. K. C. Leung<sup>ae</sup>, C. Li<sup>k</sup>, D. J. Li<sup>z</sup>, F. Li<sup>h</sup>, G. S. Li<sup>u</sup>, Q. J. Li<sup>h</sup>, S. Li<sup>ac</sup>, S. C. Li<sup>ae,x</sup>, W. D. Li<sup>h</sup>, X. N. Li<sup>h</sup>, Y. F. Li<sup>h</sup>, Z. B. Li<sup>o</sup>, H. Liang<sup>z</sup>, C. J. Lin<sup>t</sup>, G. L. Lin<sup>j</sup>, S. Lin<sup>ac</sup>, S. K. Lin<sup>w</sup>, Y.-C. Lin<sup>e</sup>, J. J. Ling<sup>o</sup>, J. M. Link<sup>x</sup>, L. Littenberg<sup>d</sup>, B. R. Littlejohn<sup>r</sup>, D. W. Liu<sup>w</sup>, J. J. Liu<sup>ae</sup>, J. L. Liu<sup>u</sup>, J. C. Liu<sup>h</sup>, C. W. Loh<sup>g</sup>, C. Lu<sup>ag</sup>, H. Q. Lu<sup>h</sup>, J. S. Lu<sup>h</sup>, K. B. Luk<sup>ad,t</sup>, Z. Lv<sup>ah</sup>, Q. M. Ma<sup>h</sup>, X. Y. Ma<sup>h</sup>, X. B. Ma<sup>m</sup>, Y. Q. Ma<sup>h</sup>, Y. Malyshev<sup>ai</sup>, D. A. Martinez Caicedo<sup>r</sup>, K. T. McDonald<sup>ag</sup>, R. D. McKeown<sup>aj,ak</sup>, I. Mitchell<sup>w</sup>, M. Mooney<sup>d</sup>, Y. Nakajima<sup>t</sup>, J. Napolitano<sup>al</sup>, D. Naumov<sup>p</sup>, E. Naumova<sup>p</sup>, H. Y. Ngai<sup>ae</sup>, Z. Ning<sup>h</sup>, J. P. Ochoa-Ricoux<sup>ai</sup>, A. Olshevskiy<sup>p</sup>, H.-R. Pan<sup>e</sup>, J. Park<sup>x</sup>, S. Patton<sup>t</sup>, V. Pec<sup>af</sup>, J. C. Peng<sup>s</sup>, L. Pinsky<sup>w</sup>, C. S. J. Pun<sup>ae</sup>, F. Z. Qi<sup>h</sup>, M. Qi<sup>g</sup>, X. Qian<sup>d</sup>, N. Raper<sup>am</sup>, J. Ren<sup>y</sup>, R. Rosero<sup>d</sup>, B. Roskovec<sup>af</sup>, X. C. Ruan<sup>y</sup>, H. Steiner<sup>ad,t</sup>, G. X. Sun<sup>h</sup>, J. L. Sun<sup>an</sup>, W. Tang<sup>d</sup>, D. Taychenachev<sup>p</sup>, T. Konstantin<sup>p</sup>, K. V. Tsang<sup>t</sup>, C. E. Tull<sup>t</sup>, N. Viaux<sup>ai</sup>, B. Viren<sup>d</sup>, V. Vorobel<sup>af</sup>, C. H. Wang<sup>f</sup>, M. Wang<sup>k</sup>, N. Y. Wang<sup>v</sup>, R. G. Wang<sup>h</sup>, W. Wang<sup>ak,o</sup>, W. W. Wang<sup>g</sup>, X. Wang<sup>ao</sup>, Y. F. Wang<sup>h</sup>, Z. Wang<sup>l</sup>, Z. Wang<sup>h</sup>, Z. M. Wang<sup>h</sup>, H. Y. Wei<sup>l</sup>, L. J. Wen<sup>h</sup>, K. Whisnant<sup>ap</sup>, C. G. White<sup>r</sup>, L. Whitehead<sup>w</sup>, T. Wise<sup>b</sup>, H. L. H. Wong<sup>ad,t</sup>, S. C. F. Wong<sup>o</sup>, E. Worcester<sup>d</sup>, C.-H. Wu<sup>j</sup>, Q. Wu<sup>k</sup>, D. M. Xia<sup>aq,h</sup>, J. K. Xia<sup>h</sup>, Z. Z. Xing<sup>h</sup>, J. Y. Xu<sup>i</sup>, J. L. Xu<sup>h</sup>, J. Xu<sup>v</sup>, Y. Xu<sup>o</sup>, T. Xue<sup>l</sup>, J. Yan<sup>ah</sup>, C. G. Yang<sup>h</sup>, H. Yang<sup>g</sup>, L. Yang<sup>ac</sup>, M. S. Yang<sup>h</sup>, M. T. Yang<sup>k</sup>, M. Ye<sup>h</sup>, Z. Ye<sup>w</sup>, M. Yeh<sup>d</sup>, B. L. Young<sup>ap</sup>, G. Y. Yu<sup>g</sup>, Z. Y. Yu<sup>h</sup>, L. Zhan<sup>h</sup>, C. Zhang<sup>d</sup>, H. H. Zhang<sup>o</sup>, J. W. Zhang<sup>h</sup>, Q. M. Zhang<sup>ah</sup>, X. T. Zhang<sup>h</sup>, Y. M. Zhang<sup>l</sup>, Y. X. Zhang<sup>an</sup>, Y. M. Zhang<sup>o</sup>, Z. J. Zhang<sup>ac</sup>, Z. Y. Zhang<sup>h</sup>, Z. P. Zhang<sup>z</sup>, J. Zhao<sup>h</sup>, Q. W. Zhao<sup>h</sup>, Y. F. Zhao<sup>m</sup>, Y. B. Zhao<sup>h</sup>, W. L. Zhong<sup>h</sup>, L. Zhou<sup>h</sup>, N. Zhou<sup>z</sup>, H. L. Zhuang<sup>h</sup>, J. H. Zou<sup>h</sup>

<sup>a</sup>*Institute of Modern Physics, East China University of Science and Technology, Shanghai*

<sup>b</sup>*University of Wisconsin, Madison, Wisconsin 53706, USA*

<sup>c</sup>*Department of Physics, Yale University, New Haven, Connecticut 06520, USA*

<sup>d</sup>*Brookhaven National Laboratory, Upton, New York 11973, USA*

<sup>e</sup>*Department of Physics, National Taiwan University, Taipei*

<sup>f</sup>*National United University, Miao-Li*

<sup>g</sup>*Nanjing University, Nanjing*

<sup>h</sup>*Institute of High Energy Physics, Beijing*

<sup>i</sup>*Chinese University of Hong Kong, Hong Kong*

<sup>j</sup>*Institute of Physics, National Chiao-Tung University, Hsinchu*

<sup>k</sup>*Shandong University, Jinan*

<sup>l</sup>*Department of Engineering Physics, Tsinghua University, Beijing*

<sup>m</sup>*North China Electric Power University, Beijing*

<sup>n</sup>*Shenzhen University, Shenzhen*

<sup>o</sup>*Sun Yat-Sen (Zhongshan) University, Guangzhou*

<sup>p</sup>*Joint Institute for Nuclear Research, Dubna, Moscow Region*

<sup>q</sup>*Siena College, Loudonville, New York 12211, USA*

<sup>r</sup>*Department of Physics, Illinois Institute of Technology, Chicago, Illinois 60616, USA*

<sup>s</sup>*Department of Physics, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801, USA*

<sup>t</sup>*Lawrence Berkeley National Laboratory, Berkeley, California 94720, USA*

<sup>u</sup>*Department of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai Laboratory for Particle Physics and Cosmology, Shanghai*

<sup>v</sup>*Beijing Normal University, Beijing*

<sup>w</sup>*Department of Physics, University of Houston, Houston, Texas 77204, USA*

<sup>x</sup>Center for Neutrino Physics, Virginia Tech, Blacksburg, Virginia 24061, USA  
<sup>y</sup>China Institute of Atomic Energy, Beijing  
<sup>z</sup>University of Science and Technology of China, Hefei  
<sup>aa</sup>School of Physics, Nankai University, Tianjin  
<sup>ab</sup>Department of Physics, University of Cincinnati, Cincinnati, Ohio 45221, USA  
<sup>ac</sup>Dongguan University of Technology, Dongguan  
<sup>ad</sup>Department of Physics, University of California, Berkeley, California 94720, USA  
<sup>ae</sup>Department of Physics, The University of Hong Kong, Pokfulam, Hong Kong  
<sup>af</sup>Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic  
<sup>ag</sup>Joseph Henry Laboratories, Princeton University, Princeton, New Jersey 08544, USA  
<sup>ah</sup>Xi'an Jiaotong University, Xi'an  
<sup>ai</sup>Instituto de Física, Pontificia Universidad Católica de Chile, Santiago, Chile  
<sup>aj</sup>California Institute of Technology, Pasadena, California 91125, USA  
<sup>ak</sup>College of William and Mary, Williamsburg, Virginia 23187, USA  
<sup>al</sup>Department of Physics, College of Science and Technology, Temple University, Philadelphia, Pennsylvania 19122, USA  
<sup>am</sup>Department of Physics, Applied Physics, and Astronomy, Rensselaer Polytechnic Institute, Troy, New York 12180, USA  
<sup>an</sup>China General Nuclear Power Group  
<sup>ao</sup>College of Electronic Science and Engineering, National University of Defense Technology, Changsha  
<sup>ap</sup>Iowa State University, Ames, Iowa 50011, USA  
<sup>aq</sup>Chongqing University, Chongqing

---

## Abstract

The Elsevier abstract

---

The Elsevier text.