

Erratum: Global polarization measurement in Au + Au collisions [Phys. Rev. C 76, 024915 (2007)]

STAR Collaboration

DOI:

[10.1103/PhysRevC.95.039906](https://doi.org/10.1103/PhysRevC.95.039906)

License:

None: All rights reserved

Document Version

Publisher's PDF, also known as Version of record

Citation for published version (Harvard):

STAR Collaboration 2017, 'Erratum: Global polarization measurement in Au + Au collisions [Phys. Rev. C 76, 024915 (2007)]', *Physical Review C*, vol. 95, no. 3, 039906. <https://doi.org/10.1103/PhysRevC.95.039906>

[Link to publication on Research at Birmingham portal](#)

Publisher Rights Statement:

©2017 American Physical Society

Checked 12/5/2017

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Erratum: Global polarization measurement in Au + Au collisions [Phys. Rev. C **76, 024915 (2007)]**

B. I. Abelev, M. M. Aggarwal, Z. Ahammed, B. D. Anderson, D. Arkhipkin, G. S. Averichev, Y. Bai, J. Balewski, O. Barannikova, L. S. Barnby, J. Baudot, S. Baumgart, V. V. Belaga, A. Bellingeri-Laurikainen, R. Bellwied, F. Benedosso, R. R. Betts, S. Bhardwaj, A. Bhasin, A. K. Bhati, H. Bichsel, J. Bielcik, J. Bielcikova, L. C. Bland, S.-L. Blyth, M. Bombara, B. E. Bonner, M. Botje, J. Bouchet, A. V. Brandin, T. P. Burton, M. Bystersky, X. Z. Cai, H. Caines, M. Calderón de la Barca Sánchez, J. Callner, O. Catu, D. Cebra, M. C. Cervantes, Z. Chajecski, P. Chaloupka, S. Chattopadhyay, H. F. Chen, J. H. Chen, J. Y. Chen, J. Cheng, M. Cherney, A. Chikanian, W. Christie, S. U. Chung, R. F. Clarke, M. J. M. Coddington, J. P. Coffin, T. M. Cormier, M. R. Cosentino, J. G. Cramer, H. J. Crawford, D. Das, S. Dash, M. Daugherty, M. M. de Moura, T. G. Dedovich, M. DePhillips, A. A. Derevschikov, L. Didenko, T. Dietel, P. Djawotho, S. M. Dogra, X. Dong, J. L. Drachenberg, J. E. Draper, F. Du, V. B. Dunin, J. C. Dunlop, M. R. Dutta Mazumdar, W. R. Edwards, L. G. Efimov, V. Emelianov, J. Engelage, G. Eppley, B. Erasmus, M. Estienne, P. Fachini, R. Fatemi, J. Fedorisin, A. Feng, P. Filip, E. Finch, V. Fine, Y. Fisyak, J. Fu, C. A. Gagliardi, L. Gaillard, M. S. Ganti, E. Garcia-Solis, V. Ghazikhanian, P. Ghosh, Y. N. Gorbunov, H. Gos, O. Grebenyuk, D. Grosnick, B. Grube, S. M. Guertin, K. S. F. F. Guimaraes, A. Gupta, N. Gupta, B. Haag, T. J. Hallman, A. Hamed, J. W. Harris, W. He, M. Heinz, T. W. Henry, S. Heppelmann, B. Hippolyte, A. Hirsch, E. Hjort, A. M. Hoffman, G. W. Hoffmann, D. J. Hofman, R. S. Hollis, M. J. Horner, H. Z. Huang, E. W. Hughes, T. J. Humanic, G. Igo, A. Iordanova, P. Jacobs, W. W. Jacobs, P. Jakl, P. G. Jones, E. G. Judd, S. Kabana, K. Kang, J. Kapitan, M. Kaplan, D. Keane, A. Kechechyan, D. Kettler, V. Yu. Khodyrev, J. Kiryluk, A. Kisiel, E. M. Kislov, S. R. Klein, A. G. Knospe, A. Kocoloski, D. D. Koetke, T. Kollegger, M. Kopytine, L. Kotchenda, V. Kouchpil, K. L. Kowalik, P. Kravtsov, V. I. Kravtsov, K. Krueger, C. Kuhn, A. I. Kulikov, A. Kumar, P. Kurnadi, A. A. Kuznetsov, M. A. C. Lamont, J. M. Landgraf, S. Lange, S. LaPointe, F. Laue, J. Lauret, A. Lebedev, R. Lednicky, C.-H. Lee, S. Lehocka, M. J. LeVine, C. Li, Q. Li, Y. Li, G. Lin, X. Lin, S. J. Lindenbaum, M. A. Lisa, F. Liu, H. Liu, J. Liu, L. Liu, T. Ljubicic, W. J. Llope, R. S. Longacre, W. A. Love, Y. Lu, T. Ludlam, D. Lynn, G. L. Ma, J. G. Ma, Y. G. Ma, D. P. Mahapatra, R. Majka, L. K. Mangotra, R. Manweiler, S. Margetis, C. Markert, L. Martin, H. S. Matis, Yu. A. Matulenko, T. S. McShane, A. Meschanin, J. Millane, M. L. Miller, N. G. Minaev, S. Mioduszewski, A. Mischke, J. Mitchell, B. Mohanty, D. A. Morozov, M. G. Munhoz, B. K. Nandi, C. Nattrass, T. K. Nayak, J. M. Nelson, C. Nepali, P. K. Netrakanti, L. V. Nogach, S. B. Nurushev, G. Odyniec, A. Ogawa, V. Okorokov, D. Olson, M. Pachr, S. K. Pal, Y. Panebratsev, A. I. Pavlinov, T. Pawlak, T. Peitzmann, V. Perevoztchikov, C. Perkins, W. Peryt, S. C. Phatak, M. Planinic, J. Pluta, N. Poljak, N. Porile, A. M. Poskanzer, M. Potekhin, E. Potrebenikova, B. V. K. S. Potukuchi, D. Prindle, C. Pruneau, N. K. Pruthi, J. Putschke, I. A. Qattan, R. Raniwala, S. Raniwala, R. L. Ray, D. Relyea, A. Ridiger, H. G. Ritter, J. B. Roberts, O. V. Rogachevskiy, J. L. Romero, A. Rose, C. Roy, L. Ruan, M. J. Russcher, R. Sahoo, I. Sakrejda, T. Sakuma, S. Salur, J. Sandweiss, M. Sarsour, P. S. Sazhin, J. Schambach, R. P. Scharenberg, N. Schmitz, J. Seger, I. Selyuzhenkov, P. Seyboth, A. Shabetai, E. Shahaliev, M. Shao, M. Sharma, W. Q. Shen, S. S. Shimanskiy, E. P. Sichtermann, F. Simon, R. N. Singaraju, N. Smirnov, R. Snellings, P. Sorensen, J. Sowinski, J. Speltz, H. M. Spinka, B. Srivastava, A. Stadnik, T. D. S. Stanislaus, D. Staszak, R. Stock, M. Strikhanov, B. Stringfellow, A. A. P. Suaide, M. C. Suarez, N. L. Subba, M. Sumbera, X. M. Sun, Z. Sun, B. Surrow, T. J. M. Symons, A. Szanto de Toledo, J. Takahashi, A. H. Tang, T. Tarnowsky, J. H. Thomas, A. R. Timmins, S. Timoshenko, M. Tokarev, T. A. Trainor, S. Trentalange, R. E. Tribble, O. D. Tsai, J. Ulery, T. Ullrich, D. G. Underwood, G. Van Buren, N. van der Kolk, M. van Leeuwen, A. M. Vander Molen, R. Varma, I. M. Vasilevski, A. N. Vasiliev, R. Vernet, S. E. Vigdor, Y. P. Viyogi, S. Vokal, S. A. Voloshin, M. Wada, W. T. Waggoner, F. Wang, G. Wang, J. S. Wang, X. L. Wang, Y. Wang, J. C. Webb, G. D. Westfall, C. Whitten Jr., H. Wieman, S. W. Wissink, R. Witt, J. Wu, Y. Wu, N. Xu, Q. H. Xu, Z. Xu, P. Yepes, I.-K. Yoo, Q. Yue, V. I. Yurevich, M. Zawisza, W. Zhan, H. Zhang, W. M. Zhang, Y. Zhang, Z. P. Zhang, Y. Zhao, C. Zhong, J. Zhou, R. Zoukarnneev, Y. Zoukarnneeva, A. N. Zubarev, and J. X. Zuo

(STAR Collaboration)

(Received 24 January 2017; published 23 March 2017)

DOI: [10.1103/PhysRevC.95.039906](https://doi.org/10.1103/PhysRevC.95.039906)

The direction of the total angular momentum of a collision between two nuclei is

$$\hat{L} = \hat{b} \times \hat{p}_{\text{beam}},$$

where \hat{b} and \hat{p}_{beam} are unit vectors in the directions of the impact parameter and the momentum of one of the incoming nuclei, respectively. It is important to maintain a consistent convention when defining the vectors in this equation. In particular, \hat{b} is the perpendicular (to \hat{p}_{beam}) component of the separation vector between the centers of the two nuclei before they collide. This separation vector points *from* the center of the nucleus defined to travel in the $-\hat{p}_{\text{beam}}$ direction *towards* the center of the nucleus traveling in the $+\hat{p}_{\text{beam}}$ direction. The opposite definition was used in the original paper.

In Fig. 1, the angular momentum vector \vec{L} should point in the direction opposite to what is shown, and Eq. (3) should read

$$P_H = -\frac{8}{\pi\alpha_H} \langle \sin(\phi_p^* - \Psi_{RP}) \rangle$$

Here, α_H is the Λ decay parameter, and Ψ_{RP} is the reaction plane angle, defined as the azimuthal angle of \hat{b} . The azimuthal angle of the decay proton's momentum in the Λ frame is ϕ_p^* .

All reported polarization data shown in Figs. 3–8 are plotted with the wrong signs.

The conclusion, that the global polarization of Λ and $\bar{\Lambda}$ in Au + Au collisions at $\sqrt{s_{NN}} = 62.4$ and 200 GeV is $|P_{\Lambda, \bar{\Lambda}}| < 0.02$, remains the same.