

## Peer-Reviewed Papers

- (1)  $J/\psi$  and  $\psi(2S)$  production at forward rapidity in p+p collisions at  $\sqrt{s}=510$  GeV  
U. A. Acharya, [S. Hasegawa](#), [H. Sako](#), [S. Sato](#), [K. Tanida](#), et al. (PHENIX collaboration)  
Phys. Rev. D 101 (2020) 5, 052006
- (2) Measurement of  $J/\psi$  at forward and backward rapidity in p+p, p+Al, p+Au, and 3He+Au collisions at  $\sqrt{s_{NN}}=200$  GeV  
U. A. Acharya, [S. Hasegawa](#), [H. Sako](#), [S. Sato](#), [K. Tanida](#), et al. (PHENIX collaboration)  
Phys. Rev. C 102 (2020) 1, 014902
- (3) Nuclear-modification factor of charged hadrons at forward and backward rapidity in p+Al and p+Au collisions at  $\sqrt{s_{NN}}=200$  GeV  
C. Aidala, [S. Hasegawa](#), [H. Sako](#), [S. Sato](#), [K. Tanida](#), et al. (PHENIX collaboration)  
Phys. Rev. C 101 (2020) 3, 034910
- (4) Measurement of charged pion double spin asymmetries at midrapidity in longitudinally polarized p+p collisions at  $\sqrt{s}=510$  GeV  
U. Acharya, [S. Hasegawa](#), [H. Sako](#), [S. Sato](#), [K. Tanida](#), et al. (PHENIX Collaboration):  
Phys. Rev. D 102, 032001 (2020).
- (5) Dalitz analysis of  $D^0$  to  $K^-\pi^+\eta$  decays at Belle,  
Y. Q. Chen, [K. Tanida](#), et al. (Belle Collaboration):  
Phys. Rev. D 102, 012002 (2020).
- (6) Search for  $B^0$  Decays to Invisible Final States ( $+\gamma$ ) at Belle,  
Y. Ku, [K. Tanida](#), et al. (Belle Collaboration)  
Phys. Rev. D 102, 012003 (2020).
- (7) Roper-like resonances with various flavor contents and their two-pion emission decays  
A. J. Arifi, H. Nagahiro, A. Hosaka, and [K. Tanida](#)  
Phys. Rev. D 101, 111502(R) (2020)
- (8) Transverse single-spin asymmetry for very forward neutral pion production in polarized p+p collisions at  $\sqrt{s}=510$  GeV  
M. H. Kim, [K. Tanida](#), et al. (RHICf Collaboration)  
Phys. Rev. Lett. 124, 252501 (2020)
- (9) Three-body decay of  $\Lambda_c^*(2765)$  and determination of its spin-parity  
A. J. Arifi, H. Nagahiro, A. Hosaka, and [K. Tanida](#)  
Phys. Rev. D 101, 094023 (2020)
- (10) Evidence for a vector charmonium-like state in  $e^+e^-$  to  $D_s^+ D_{s2}^*(2573)^- + c.c.$   
S. Jia, [K. Tanida](#), et al. (Belle Collaboration)  
Phys. Rev. D 101, 091101(R) (2020)
- (11) Update of inclusive cross sections of single and pairs of identified light charged hadrons  
R. Seidl, [K. Tanida](#), et al. (Belle Collaboration)  
Phys. Rev. D 101, 092004 (2020)

- (12) First search for the  $\eta_{c2}(1D)$  in B decays at Belle  
 K. Chilikin, K. Tanida, et al. (Belle Collaboration)  
 J. High Energ. Phys. 2020, 34 (2020)
- (13) Study of B to  $p \bar{p} \pi \pi$   
 K. Chu, K. Tanida, et al. (Belle Collaboration)  
 Phys. Rev. D 101, 052012 (2020)
- (14) **Editors' suggestion** Measurement of R(D) and R(D\*) with a semileptonic tagging method  
 G. Caria, K. Tanida, et al. (Belle Collaboration)  
 Phys. Rev. Lett. 124, 161803 (2020)
- (15) Observation of the radiative decays of Y(1S) to  $\chi_{c1}$   
 P. Katrenko, K. Tanida, et al. (Belle Collaboration)  
 Phys. Rev. Lett. 124, 122001 (2020)
- (16) **Editors' suggestion:** Search for an Invisibly Decaying Z' Boson at Belle II in  $e^+e^-$  to  $\mu^+\mu^-$  ( $e^\pm \mu^\mp$ ) Plus Missing Energy Final States  
 I. Adachi, K. Tanida, et al, (Belle II Collaboration)  
 Phys. Rev. Lett. 124, 141801 (2020)
- (17) Measurement of the integrated luminosity of the Phase 2 data of the Belle II experiment  
 F. Abudinen, K. Tanida, et al. (Belle II Collaboration)  
 Chin. Phys. C 41, 021001 (2020)
- (18) Search for lepton-number- and baryon-number-violating tau decays at Belle  
 D. Sahoo, K. Tanida, et al. (Belle Collaboration):  
 Phys. Rev. D 102, 111101 (2020).
- (19) Production of  $\pi^0$ ,  $\eta$ , and  $K_S$  mesons in U+U collisions at  $\sqrt{s_{NN}} = 192$  GeV  
 U. Acharya, S. Hasegawa, H. Sako, S. Sato, K. Tanida, et al (PHENIX Collaboration),  
 Phys. Rev. C 102, 064905 (2020).
- (20) Search for a doubly-charged DDK bound state in Y(1S; 2S) inclusive decays and via direct production in  $e^+e^-$  collisions at  $\sqrt{s} = 10.520, 10.580, \text{ and } 10.867$  GeV  
 Y. Li, K. Tanida, et al. (Belle Collaboration):  
 Phys. Rev. D 102, 112001 (2020).
- (21) Measurement of jet-medium interactions via direct photon-hadron correlations in Au+Au and d+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV  
 U. Acharya, S. Hasegawa, H. Sako, S. Sato, K. Tanida, et al. (PHENIX Collaboration):  
 Phys. Rev. C102, 054910 (2020).
- (22) Search for transitions from Y(4S) and Y(5S) to  $\eta_b(1S)$  and  $\eta_b(2S)$  with emission of an  $\omega$  meson  
 P. Oskin, K. Tanida, et al. (Belle Collaboration)  
 Phys. Rev. D 102, 092011 (2020).
- (23) Search for Axionlike Particles Produced in  $e^+e^-$  Collisions at Belle II,  
 F. Abudinen, K. Tanida, et al. (Belle II Collaboration):

- Phys. Rev. Lett. 125, 161806 (2020).
- (24) Study of electromagnetic decays of orbitally excited Xc baryons  
 J. Yelton, K. Tanida, et al. (Belle Collaboration)  
 Phys. Rev. D(R) 102, 071103(R) (2020).
- (25) Production of bb at forward rapidity in p+p collisions at  $\sqrt{s} = 510$  GeV  
 U. Acharya, S. Hasegawa, H. Sako, S. Sato, K. Tanida, et al. (PHENIX Collaboration):  
 Phys. Rev. D 102, 092002 (2020).
- (26) Measurement of the charm-mixing parameter  $y_{CP}$  in  $D^0 \rightarrow K^0_s$  decays at Belle  
 M. Nayak, K. Tanida, et al. (Belle Collaboration)  
 Phys. Rev. D 102, 071102(R) (2020).
- (27) Observation of a KNN bound state in the  ${}^3\text{He}(K^-, \Lambda p)n$  reaction  
 T. Yamaga, T. Hashimoto, K. Tanida, et al.  
 Phys. Rev. C 102, 044002 (2020).
- (28) An event excess observed in the deeply bound region of  ${}^{12}\text{C}(K^-, p)$  missing-mass spectrum  
Y. Ichikawa, S. Hasegawa, S. H. Hayakawa, T. Nanamura, H. Sako, S. Sato, H. Tamura, T. O. Yamamoto et al.  
 Prog. Theor. Exp. Phys. 2020, 123D01 (2020) (**Selected for PTEP Editors' Choice**)
- (29)  $\Delta$  Experimental determination of the isospin of  $\Lambda_c/\Sigma_c(2765)^+$   
Kiyoshi Tanida for the Belle collaboration  
 Proceedings of the XVIII International Conference on Hadron Spectroscopy and Structure (Hadron2019), pp. 183-187 (2020)
- (30)  $\bar{K}$ -Nuclear Bound State at J-PARC  
 Fuminori Sakuma, T. Hashimoto, K. Tanida, et al.  
 JPS Conf. Proc. 32, 010088 (2020)
- (31) K-pp bound system at J-PARC  
 Fuminori Sakuma, T. Hashimoto, K. Tanida, et al.  
 AIP Conf. Proc. 2249, 020005 (2020)
- (32) Studies of Dense Matter in Heavy-Ion Collisions at J-PARC  
Hiroyuki Sako  
 JPS Conf. Proc. 32 (2020) 010094
- (33) Development of a time projection chamber for J-PARC hadron physics program  
 S. H. Kim, Y. Ichikawa, H. Sako, J. K. Ahn for the J-PARC E42/45/72 Collaboration  
 J. Phys. Conf. Ser. 1498 (2020) 012023
- (34) Performance of PMTs for the JSNS<sup>2</sup> experiment  
 J. S. Park, S. Hasegawa, Y. Hino, R. Ujiie, et al  
 JINST 15 (2020) 07, T07003
- (35) Integration of a TES-based X-ray spectrometer in a kaonic atom experiment  
T. Hashimoto, et al.

- J. Low Temp. Phys. 199, 3-4, 1018-1026 (2020). <https://doi.org/10.1007/s10909-020-02434-1>
- (36) Coevolution of the Technology on Transition-Edge-Sensor Spectrometer and Its Application to Fundamental Science  
S. Yamada, H. Tatsuno, S. Okada, and T. Hashimoto  
J. Low Temp. Phys. (2020). <https://doi.org/10.1007/s10909-020-02441-2>
- (37) X-ray Spectroscopy of Muonic Atoms Isolated in Vacuum with Transition Edge Sensors  
S. Okada, T. Hashimoto, et al.  
J. Low. Temp. Phys. (2020). <https://doi.org/10.1007/s10909-020-02476-5>
- (38) Mitigating the Effects of Charged Particle Strikes on TES Arrays for Exotic Atom X-ray Experiments  
H. Tatsuno, T. Hashimoto, et al.  
J. Low. Temp. Phys. 200, 247 (2020). <https://doi.org/10.1007/s10909-020-02484-5>
- (39) High Energy Background Event Identification Using Local Group Trigger in a 240-pixel X-ray TES Array  
S. Yamada, T. Hashimoto, et al.  
J. Low. Temp. Phys. (2020). <https://doi.org/10.1007/s10909-020-02468-5>
- (40) Waveform Analysis of a 240-Pixel TES Array for X-Rays and Charged Particles Using a Function of Triggering Neighboring Pixels  
R. Hayakawa, T. Hashimoto, et al.  
J. Low. Temp. Phys. (2020). <https://doi.org/10.1007/s10909-020-02449-8>
- (41) New Slow control and monitoring system at the JSNS<sup>2</sup>  
J. S. Park, S. Hasegawa, Y. Hino, R. Ujiie, et al  
New Phys.Sae Mulli 70 (2020) 11, 928-933
- (42) Study on the baryon interaction by  $\Xi$  hypernuclear spectroscopy with the  $(K^-, K^+)$  reaction  
T. Gogami, S. Hasegawa, S. H. Hayakawa, Y. Ichikawa, K. Imai, T. Nanamura, H. Sako, S. Sato, H. Tamura, T. O. Yamamoto et al (J-PARC E05 and E70 Collaboration)  
J. Phys. Conf. Ser. 1643, 012133 (2020).
- (43) Study of  $\Sigma N$  interaction from the  $\Sigma p$  scattering experiment at J-PARC  
K. Miwa, S. Hasegawa, S. H. Hayakawa, Y. Ichikawa, K. Imai, T. Nanamura, H. Sako, S. Sato, H. Tamura, T. O. Yamamoto et al.  
J. Phys. Conf. Ser. 1643, 012174 (2020).
- (44) The energy spectrum of forward photons measured by the RHICf experiment in  $\sqrt{s} = 510$  GeV proton-proton collisions,  
Kenta Sato, K. Tanida, et al  
PoS ICRC2019, 413 (2020).
- (45) The JSNS<sup>2</sup> data acquisition system  
J. S. Park, S. Hasegawa, Y. Hino, R. Ujiie, et al,  
JINST 15, 09, T09002 (2020)

### **Invited Talks at International Conferences**

(1) Left-right asymmetries in very forward hadron production with high-energy polarized proton collision

K. Tanida

The 59th ASRC International Workshop on Universal Features of Quantum Flows with Spin, Orbital and Tensor Correlations (Tokai, Feb. 17-19, 2020)

(2) Experimental Studies on Possible Modification of Baryons in Nuclei

H. Tamura

International Symposium on Clustering as a Window on the Hierarchical Structure of Quantum Systems (CLUSHIQ2020), Beppu, January 23-24, 2020.

(3) Belle II: Charmonium,  $\Lambda_c$ , and X(3872) Family

K. Tanida for Belle II collaboration

Invited talk at 19th International Conference on B-Physics at Frontier Machines (Beauty2020) (Online, Sep. 21-24, 2020).

(4) Gamma-ray spectroscopy of hypernuclei,

H. Tamura,

Symposium on "JPS Nuclear Physics and Physical Review C", JPS Fall meeting, Sep.16, 2020.

(5) Recent Progress of Nuclear Physics in Japan

H. Tamura

The 2020 Asian Nuclear Physics Association (ANPhA) symposium on nuclear physics facilities in Asia", Dec 10-11, 2020, hosted by Hong Kong University.

### **Books and Scientific Articles**

None

### **Patents**

None

### **Awards**

None

### **Press Release**

(1) 陽子衝突からの左右非対称な  $\pi$  中間子生成-粒子生成の起源に迫る新たな発見-  
谷田聖他、2020年6月