

1. Possible studies on gravitational form factors of hadrons by high-energy LBNF neutrino beam, KEK workshop on Beta decay, r process, and related weak-interaction processes, (Online) KEK, Tokai Campus, Japan, February 19, 2021.
2. Structure functions for the spin-1 deuteron, 7th workshop on Resummation, Evolution, Factorization 2020, (Online) University of Edinburgh, United Kingdom, December 7-11, 2020.
3. Polarized structure functions of spin-1 deuteron in proton - deuteron Drell-Yan processes, 17th International Workshops on Hadron Structure and Spectroscopy (IWHSS2020), (Online) Trieste, Italy, on November 16-18, 2020.
4. Structure functions of spin-1 hadrons, Journal Club of KEK Theory Center, (Online) KEK, Tsukuba, Japan, November 6, 2020.
5. Gluon transversity and tensor-polarized gluon distribution in the deuteron, Workshop on Gluon content of proton and deuteron with the Spin Physics Detector at the NICA collider, (Online) Dubna, Russia, September 30 - October 1, 2020.
6. Studies on a new aspect of deuteron structure by using the gluon transversity distribution, Autumn Japan-Physical-Society Meeting in 2020, (Online) Tsukuba University, Japan, September 14-17, 2020 (talk on September 14)
7. Introduction: Purposes of this workshop, KEK Workshop on Intersections of Particle and Nuclear Collider Physics in 2020, (Online) KEK Tsukuba Campus, Japan, August 31 - September 1, 2020
8. Possible studies of polarized structure functions for the spin-1 deuteron at hadron accelerator facilities, Seminar, Bogoliubov Laboratory of Theoretical Physics, (Online) Joint Institute for Nuclear Research (JINR), Dubna, Russia, May 21, 2020.
9. Studies of gluon transversity distribution in polarized proton-deuteron collisions No.75 of Annual meeting of Japanese Physical Society, (Online) Nagoya University, Japan, March 16-19, 2020.
10. Internal structure of exotic-hadron candidates by hard reactions, KEK workshop on Physics of heavy-quark and exotic hadrons, KEK, Tokai, Japan, January 27-29, 2020,
11. Partonic structure of tensor-polarized deuteron, Workshop on Exploring QCD with light nuclei at EIC, Stony Brook, New York, USA, January 21-24, 2020.
12. Quark and gluon transversity distributions, KEK workshop on Nucleon electric dipole moments and spin structure in 2020, KEK, Tokai, Japan, January 11, 2020.
13. Proton-deuteron Drell-Yan process for finding gluon transversity, Journal Club of KEK theory center, KEK, Tsukuba, Japan, October 21, 2019.

14. Generalized distribution amplitudes and gravitational form factors of hadrons, XVth Rencontres du Vietnam “Perspectives in Hadron Physics”, Quy Nhon, Vietnam, September 22-28, 2019.
15. Gravitational form factors for finding mass and pressure distributions in hadrons, 11th Circum-Pan-Pacific Symposium on High Energy Spin Physics (PacificSpin2019), Miyazaki, Japan, August 27-30, 2019.
16. Gravitational form factors of hadrons, Workshop on nuclear physics by electron scattering - focused on proton radius and charge distributions of unstable nuclei -, Tohoku University, Sendai, Japan, March 20-21, 2019.
17. Gravitational radii of hadrons by hadron tomography, Progress on QCD and nucleon structure in 2019, Room 345, 4th Building, KEK Tsukuba Campus, Japan, February 28 - March 1, 2019
18. Proton puzzle overview, International workshop on the structure of the proton, Yamagata, Japan, February 10-11, 2019.
19. Theoretical aspects on exclusive Drell-Yan process at J-PARC, Workshop on dilepton measurement with the E50 experiment, KEK, Tokai, Japan, January 8, 2019.
20. Possible hadron-tomography studies at KEK experimental facilities, Journal Club of KEK theory center, KEK, Tsukuba, Japan, December 10, 2018.
21. Hadron tomography studies in Japan at J-PARC, KEKB, and ILC, Workshop on Progress on Hadron structure functions in 2018, KEK, Tsukuba, Japan, November 18-19, 2018.
22. Conference Summary, 8th International Conference on Quarks and Nuclear Physics, Tsukuba, Japan, November 13-17, 2018.
23. Hadron tomography and nucleon spin physics, Workshop on The Nature of Hadron Mass and Quark-Gluon Confinement from JLab Experiments in the 12-GeV Era, APCTP, Pohang, South Korea, July 1-4, 2018.
24. Polarized structure functions of spin-one deuteron, Workshop on Recent Developments in Quark-Hadron Sciences, YITP, Kyoto University, Kyoto, Japan, June 11-15, 2018.
25. High-energy neutrino-nucleus interactions, Workshop on 20th International Symposium on Very High Energy Cosmic Ray Interactions, Nagoya University, Nagoya, Japan, May 21-25, 2018.
26. Clarification on internal structure of hadrons and their gravitational form factors by tomography, High Energy Accelerator Science Seminar, KEK, Tsukuba, Japan, April 25, 2018.

27. Theoretical perspective for the future experiments on parton densities, 26th International Workshop on Deep Inelastic Scattering and Related Subjects, Kobe, Japan, April 16-20, 2018.
28. Neutrino physics and EIC, Pre-DIS EIC Workshop, Kobe, Japan, April 15, 2018.
29. Clarification on origins of nucleon spin and mass by tomography, 73th Physical Society of Japan Annual Meeting, Tokyo Science University, Noda, Japan, March 22-25, 2018.
30. Tomography of hadrons by generalized distribution amplitudes, Theory Center Seminar, Jefferson Laboratory, Newport News, Virginia, USA, March 14, 2018.
31. Tensor polarized DIS theory, Workshop on Polarized light Ion Physics with EIC, Ghent, Belgium, February 5-9, 2018.
32. Hadron tomography by generalized parton distributions and generalized distribution amplitudes, Workshop on Summary of KEK-Theory-Center J-PARC Branch Activities, Tokai, Japan, February 1-2, 2018.
33. Neutrino-nucleus reactions in deep-inelastic-scattering region, Workshop on Summary of KEK-Theory-Center J-PARC Branch Activities, Tokai, Japan, February 1-2, 2018.
34. Hadron tomography by three-dimensional structure functions and gravitational form factors, Meeting on High-Energy QCD and Nucleon Structure, Riken, Wako, Japan, January 29, 2018.
35. Precise description of lepton-hadron scattering in the DIS region and new 3D view of hadrons, Workshop for Unification and Development of the Neutrino Science Frontier, Otsu, Shiga, Japan, December 11-13, 2017.
36. Introduction: Hadron tomography and quark-gluon energy-momentum tensor as a source of gravity, Workshop on Gravitational Physics with Particle Accelerators 2017, KEK, Tokai, Japan, November 30, 2017.
37. Lepton-nucleus deep inelastic scattering, Workshop on Neutrino-Nucleus Interaction in a Few GeV Region, KEK, Tokai, Japan, November 18-19, 2017.
38. Hadron tomography by three-dimensional structure functions, Workshop on Dilepton Productions with Meson and Antiproton Beams, ECT*, Trento, Italy, November 6-10, 2017.
39. Progress on structure functions of hadrons: 3 dimensional view of hadrons, Korean Physical Society Meeting, Gyeongju, Korea, October 25-27, 2017.

40. Flavor dependence of fragmentation functions,
Workshop on The Flavor Structure of Nucleon Sea,
University of Washington, Seattle, USA, October 2-13, 2017.
41. Flavor-dependent antiquark distributions in the nucleons and nuclei,
Workshop on The Flavor Structure of Nucleon Sea,
University of Washington, Seattle, USA, October 2-13, 2017.
42. Hadron tomography by generalized parton distributions
and generalized distribution amplitudes,
Workshop on Spatial and Momentum Tomography of Hadrons and Nuclei,
University of Washington, Seattle, USA, August 28 - September 29, 2017.
43. Hadron tomography and its application to gravitational-interaction radii of hadrons,
Light Cone 2017 Conference,
Mumbai, India, September 18-22, 2017.
44. Tomography and gravitational radii for hadrons by three-dimensional
structure functions,
International Conference on Exotic Atoms and Related Topics,
Vienna, Austria, September 10-15, 2017.
45. Prospects at J-PARC,
Workshop on Hadronic Physics with Lepton and Hadron Beams,
JLab, Newport News, USA, September 5-8, 2017.
46. 3D tomography by generalized distribution amplitudes
and gravitational-interaction radius for pion,
Workshop on Hadron Physics and QCD,
Academia Sinica, Taipei, Taiwan, July 17-18, 2017.
47. Possible hadron physics at ILC,
Seminar, KEK theory center,
KEK, Tsukuba, Japan, July 10, 2017.
48. Generalized distribution amplitudes in two-photon process,
Meeting on High-Energy QCD and Nucleon Structure,
KEK, Tokai, Japan, July 7, 2017.
49. Global analysis from DIS to the small- Q^2 region,
11th International Workshop on Neutrino-Nucleus Scattering in the Few-GeV Region,
Toronto, Canada, June 25-30, 2017.
50. Hadron tomography by generalized parton distributions and distribution amplitudes,
Hadron Theory Seminar,
Nagoya University, Nagoya, Japan, April 20, 2017.
51. 3D structure of hadrons by generalized distribution amplitudes,
25th International Workshop on Deep-Inelastic Scattering and Related Topics,
Birmingham, UK, April 3-7, 2017.
52. Hadron physics at ILC,
Meeting on High-Energy QCD and Nucleon Structure,
Yamagata University, Yamagata, Japan, March 24, 2017.
53. Lepton-nucleus deep inelastic scattering and tensor structure of the deuteron,
Meeting on High-Energy QCD and Nucleon Structure,
Yamagata University, Yamagata, Japan, March 24, 2017.

54. Tensor structure of the deuteron in terms of quark and gluon degrees of freedom,
Seminar on Nuclear Physics,
Yukawa Institute, Kyoto University, Kyoto, Japan, February 24, 2017.
55. Progress on nuclear parton distribution functions,
Workshop on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, February 21-23, 2017.
56. Nuclear PDFs,
Workshop on Probing QCD in Photon-Nucleus Interactions at RHIC and LHC:
the Path to EIC,
University of Washington, Seattle, USA, February 13-17, 2017.
57. Polarized structure functions of the spin-1 deuteron,
Seminar, KEK Theory Center,
KEK, Tsukuba, Japan, February 10, 2017.
58. Organizer Welcome,
Workshop on Hadron and Nuclear Physics in 2017,
KEK, Tsukuba, Japan, January 7-10, 2017.
59. Tensor-polarized structure functions for spin-one hadron,
Joint CTEQ Meeting and POETIC 7 (7th International Conference
on Physics Opportunities at an Electron-Ion-Collider),
Temple University, Philadelphia, USA, November 14-18, 2016.
60. Possible studies of tensor-polarized structure functions for a spin-one hadron
at Fermilab Main Injector,
Fermilab Theory Seminar,
Fermilab, Batavia, USA, September 30, 2016.
61. Tensor-polarized structure function b_1 in the standard convolution description
for the deuteron,
22nd International Spin Symposium (Spin'16),
Champaign, Illinois, USA, September 25-30, 2016.
62. Hadron tomography studies by generalized parton distributions
and distribution amplitudes,
XLVI International Symposium on Multiparticle Dynamics,
Jeju Island, South Korea, August 29 - September 2, 2016.
63. Possible tomography studies at KEK-B,
Workshop on Hadron Tomography,
YITP, Kyoto University, Kyoto, Japan, July 31, 2016.
64. Exotic-hadron signature by constituent-counting rule in perturbative QCD,
14th International Conference on Meson-Nucleon Physics and the Structure of the Nucleon,
Kyoto University, Kyoto, Japan, July 25-30, 2016.
65. Constituent-counting rule in photo-production of hyperon resonances,
Seminar, KEK Theory Center,
KEK, Tsukuba, Japan, April 15, 2016.
66. Hadron tomography in high-energy reactions,
Seminar, Institute of Physics,
Academia Sinica, Taiwan, March 28, 2016.

67. Structure functions of hadrons,
Fermilab Theory Seminar,
Wilson Hall, Fermilab, Batavia, USA, March 9, 2016.
68. Greeting: Welcome to the workshop,
International Workshop on J-PARC Hadron Physics in 2016,
IQBRC, Tokai, Japan, March 2-4, 2016.
69. Deep inelastic scattering with tensor polarized deuteron,
Workshop on Next-Generation Nuclear Physics with JLab12 and EIC,
Florida International University, Miami, USA, February, 10-13, 2016.
70. Discussions on shallow and deep inelastic scattering,
International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region,
Osaka, Japan, November 16-21, 2015.
71. Neutrino-nucleus interactions in DIS region,
International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region,
Osaka, Japan, November 16-21, 2015.
72. Physics of J-PARC,
Cold Dense Nuclear Matter - From Short-Range Nucleon Correlations to Neutron Stars,
GSI, Darmstadt, Germany, October 13-17, 2015.
73. New spin structure of spin-one deuteron,
10th Circum-Pan-Pacific Spin Symposium on High Energy Spin Physics,
Academia Sinica, Taipei, Taiwan, October 5-8, 2015.
74. Progress on nuclear modifications of structure functions,
Sixth International Conference on Physics Opportunities at an Electron-Ion Collider,
Ecole Polytechnique, Palaiseau, France, September 7-11, 2015.
75. High-energy exclusive reactions for exotic hadrons,
Spinfest 2015 Workshop,
KEK, Tokai, Japan, July 22-24, 2015.
76. Changing world of nuclear physics,
IPNS Meeting on Prospects on Particle and Nuclear Physics,
KEK, Tsukuba, Japan, May 12, 2015.
77. Hadron-structure physics at J-PARC,
Nuclear and Particle Physics Seminar,
Florida International University, Miami, USA, February 26, 2015.
78. Status report on parton distributions in the LHC era,
Workshop on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, February 19-20, 2015.
79. Parton distributions in the LHC era,
Seminar, KEK theory center,
KEK, Tsukuba, Japan, February 16, 2015.
80. Introduction to Department of Particle and Nuclear Physics, School of High-Energy
Accelerator Science, Graduate University for Advanced Studies,
National Institute of Technology, Ichinoseki College, Ichinoseki, Japan, February 13, 2015.
81. Neutrino-nucleus interactions in the DIS region,
Workshop on Neutrino Frontier in 2014,
Fuji-Yoshida, Japan, December 21-23, 2014.

82. Organizer welcome,
Workshop on Progress on J-PARC Hadron Physics in 2014,
Tokai, Japan, November 30 - December 2, 2014.
83. Nuclear PDFs and exclusive reactions for hadron structure,
4th International Workshop on Nucleon Structure at Large Bjorken x ,
Frascati, Italy, November 17-21, 2014.
84. Spin Physics at J-PARC,
21st International Symposium on Spin Physics,
Peking University, Beijing, China, October 20-24, 2014.
85. 3D structure of hadrons by high-energy exclusive processes,
Fourth Joint Meeting of the Nuclear Physics Divisions
of the American Physical Society and The Physical Society of Japan,
Waikoloa, Hawaii, USA, October 7-11, 2014.
86. Studies of exotic hadrons by high-energy exclusive reactions
and high-energy hadron physics at J-PARC,
Seminar of High-Energy Theory Group,
Academia Sinica, Taipei, Taiwan, August 22, 2014.
87. NuTeV measurement on structure functions,
Meeting on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, August 6, 2014.
88. Internal structure of exotic hadrons by high-energy exclusive reactions,
2nd International Symposium on Science at J-PARC,
Tsukuba International Congress Center, Tsukuba, Japan, July 12-15, 2014.
89. Hadron physics and J-PARC,
High Energy Accelerator Science Seminar,
KEK, Tsukuba, Japan, June 25, 2014.
90. Clustering structure of nuclei in deep inelastic processes,
3rd International Workshop on State of the Art in Nuclear Cluster Physics,
Kanto Gakuin University, Yokohama, Japan, May 26-30, 2014.
91. Tensor polarized distribution functions,
Tensor Polarized Solid Target Workshop,
JLab, Newport News, USA, March 10-12, 2014.
92. Hadron-structure physics at J-PARC,
KEK Theory Center Workshop on High-Energy QCD and Nucleon Structure,
KEK, Tokai, Japan, March 7 -8 , 2014.
93. Tomography of hadrons in high-energy exclusive processes,
Workshop on Studies of 3D Structure of Nucleon,
University of Washington, Seattle, USA, February 24-28, 2014.
94. J-PARC theory activities,
KEK Theory Center Workshop on J-PARC Hadron Physics in 2014,
KEK, Tokai, Japan, February 10-12, 2014.
95. Neutrino interactions in DIS region,
Workshop on Toward unified Description of Lepton-Nucleus Reactions
from MeV to GeV region,
KEK, Tokai, Japan, February 9, 2014.

96. Possible hadron-structure studies at J-PARC,
Workshop on Exploring Hadron Structure with Tagged Structure Functions,
JLab, Newport News, USA, January 16-18, 2014.
97. Nuclear parton distribution functions,
Meeting on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, December 25-26, 2013.
98. Update on determination of fragmentation functions,
Indiana-Illinois Workshop on Fragmentation Functions,
Bloomington, Indiana University, USA, December 12-14, 2013.
99. Overview of nuclear parton distribution functions,
Workshop INT-13-54W on Neutrino-Nucleus Interactions for Current
and Next Generation Neutrino Oscillation Experiments,
INT, University of Washington, USA, December 3-13, 2013.
100. Exclusive production of exotic-meson pair in two-photon processes,
Autumn Japan-Physical-Society Meeting in 2013,
Kochi University, Kochi, Japan, September 20-23, 2013.
101. Neutrino reaction at high energies,
Workshop on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, August 3, 2013.
102. Studies of exotic hadrons by high-energy exclusive reactions,
12th Asia Pacific Physics Conference,
Makuhari Messe, Chiba, Japan, July 14-19, 2013.
103. New developments of tensor-structure studies in terms of quark-gluon degrees of freedom,
Workshop on the Importance of Tensor interactions in Nuclear and Hadron structures,
RCNP, Osaka University, Japan, July 11-12, 2013.
104. Flavor structure of the light-quark sea in nucleons and possible J-PARC projects,
Workshop on Flavor Structure of the Nucleon Sea,
ECT*, Trento, Italy, July 1-5, 2013.
105. Introduction to J-PARC theory activities,
J-PARC Theory Meeting,
KEK, Tokai, Japan, May 11, 2013.
106. Global analysis of meson fragmentation functions,
Spring Japan-Physical-Society Meeting in 2013,
Hiroshima University, Higashi-Hiroshima, Japan, March 26-29, 2013.
107. High-momentum beamline projects at J-PARC,
Workshop on Nuclear Structure and Dynamics at Short Distances,
INT, University of Washington, Seattle, USA, February 11-22, 2013.
108. Tensor structure of the deuteron and nuclear structure functions,
Workshop on Nuclear Structure and Dynamics at Short Distances,
INT, University of Washington, Seattle, USA, February 11-22, 2013.
109. Hadronic structure studies at J-PARC,
Workshop on Future Prospects of Hadron Physics at J-PARC
and Large Scale Computational Physics in 2013,
IQBRC, Tokai, Japan, February 11-13, 2013.

110. J-PARC theory activities,
Workshop on Future Prospects of Hadron Physics at J-PARC
and Large Scale Computational Physics in 2013,
IQBRC, Tokai, Japan, February 11-13, 2013.
111. Introduction to hadron physics with high-momentum hadron beams,
Workshop on Hadron Physics with High-Momentum Hadron Beams at J-PARC in 2013,
KEK, Tsukuba, Japan, January 15-18, 2013.
112. Neutrino reaction in the DIS region,
Workshop on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, December 2-4, 2012.
113. Studies of internal structure of exotic hadrons by fragmentation functions,
Workshop on Fragmentation Functions and QCD 2012,
Riken, Wako, Japan, November 9-11, 2012.
114. Internal structure of hadrons in two-photon processes,
Workshop on QCD in Two-Photon Process,
Academia Sinica, Taipei, October 2-4, 2012.
115. Tensor structure of the deuteron in the 2010's in terms of quark degrees of freedom,
RIKEN Workshop on Hadron Phenomenology and Lattice QCD,
Riken, Wako, Japan, August 21, 2012.
116. High-energy hadron physics at J-PARC,
Workshop on Physics at the High-Momentum Beam Line,
KEK, Tsukuba, Japan, August 2, 2012.
117. Studies of hadron structure at high-momentum beamlines of J-PARC,
Workshop on Physics of High-Momentum Beamlines at J-PARC,
KEK, Tsukuba, Japan, May 16-17, 2012.
118. Neutrino Deep Inelastic Scattering,
Workshop on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, March 19-21, 2012.
119. Welcome to J-PARC theory activities,
Workshop on Future Prospects of Hadron Physics at J-PARC
and Large Scale Computational Physics,
IQBRC, Tokai, Japan, February 9-11, 2012.
120. Deep inelastic scattering: nuclear parton distribution functions,
Workshop on Neutrino-Nucleus Reactions from MeV to GeV,
KEK, Tokai, Japan, December 17-18, 2011.
121. Introduction to J-PARC Branch, KEK Theory Center,
Workshop on Hadron-Nuclear Theory at J-PARC,
KEK, Tokai, Japan, December 16-17, 2011.
122. Nuclear parton distribution functions,
Workshop on Short Range Correlations in Nuclei and Hard QCD Phenomena,
ECT*, Trento, Italy, November 14-18, 2011.
123. Theoretical test of CDF dijet anomaly,
150th Friendship Anniversary Workshop between Germany and Japan
on Modern Trends in Quantum Chromodynamics,
DESY, Zeuthen, Germany, October 3-5, 2011.

124. CDF W+2jet anomaly and parton distribution functions,
Autumn Japan-Physical-Society Meeting in 2011,
Hirosaki University, Japan, September 16-19, 2011.
125. Overview on the Symposium,
Symposium on Toward Understanding of Three-Dimensional Structure of the Nucleon:
Roles of Antiquarks, Gluons, and Angular Momenta,
Autumn Japan-Physical-Society Meeting in 2011,
Hirosaki University, Japan, September 16-19, 2011.
126. Unpolarized and polarized parton distributions in the nucleon and nuclei,
8th Circum-Pan-Pacific Symposium on High Energy Spin Physics,
Cairns, Australia, June 20-24, 2011.
127. Introduction to theory group in Department of Particle and Nuclear Studies,
Meeting for Graduate University for Advanced Studies,
Umeda-Sky-Building, Osaka, Japan, June 16, 2011.
128. Preparation of Tokai J-PARC theory activities,
Workshop on Hadron-Nuclear Physics at J-PARC,
KEK, Tsukuba, Japan, June 10-11, 2011.
129. Nucleon structure studies at J-PARC,
Meeting on Nucleon-Structure Studies for Future Vision of Nuclear Physics in Japan,
KEK, Tsukuba, Japan, February 14, 2011.
130. Situation of J-PARC,
Workshop on Nuclear theory at J-PARC,
Tamachi, Tokyo, Japan, February 2, 2011.
131. Clustering effects for explaining an anomalous JLab result
on the beryllium-9 structure function,
International Conference on the Structure of Baryons,
Osaka, Japan, December 7-11, 2010.
132. Possibilities of hadron-structure studies at J-PARC,
Workshop on Development of Polarized Targets,
KEK, Tsukuba, Japan, November 5, 2010.
133. Global fits of nuclear PDFs,
3rd International Workshop on Nucleon Structure at Large Bjorken x ,
Newport News, Virginia, USA, October 13-15, 2010.
134. HKN nuclear PDFs,
Workshop on Gluons and the Quark Sea at High Energies:
Distributions, Polarization, Tomography,
INT, University of Washington, Seattle, USA, September 13 - November 19, 2010.
135. Tensor-polarized quark distributions in a spin-one hadron,
Workshop on Gluons and the Quark Sea at High Energies:
Distributions, Polarization, Tomography,
INT, University of Washington, Seattle, USA, September 13 - November 19, 2010.
136. Quark distribution functions in tensor-polarized deuteron,
Autumn Japan-Physical-Society Meeting in 2010,
Kyushu Institute of Technology, Kitakyushu, Japan, September 11-14, 2010.

137. Plans for hadronic structure studies at J-PARC,
24th International Nuclear Physics Conference,
Vancouver, Canada, July 4-9, 2010.
138. Exotic hadrons from fragmentation functions,
Workshop on Exotics from Heavy Ion Collisions,
YITP, Kyoto, Japan, May 17-30, 2010.
139. High-energy hadron physics at J-PARC,
Workshop on Physics with the Extension of the Hadron Hall,
KEK, Tsukuba, Japan, March 6-7, 2010.
140. Determination of fragmentation functions and proposal for exotic-hadron search,
Workshop on New Frontiers in QCD 2010 - Exotic Hadron Systems and Dense Matter -,
YITP, Kyoto February 18 - March 19, 2010.
141. Future studies: Nuclei at GSI and J-PARC,
Workshop on High Energy Nuclear Physics and QCD,
FIU, Miami, USA, February 3-6, 2010.
142. Nucleon spin structure and generalized parton distributions in hadronic reactions,
Workshop on High Energy Nuclear Physics and QCD,
FIU, Miami, USA, February 3-6, 2010.
143. Development of nucleon-spin structure studies by high-energy proton reactions,
Project Debriefing Sessions, Hayama Center for Advanced Studies,
Shonan Kokusaimura Center, Hayama, Japan, January 14-15, 2010.
144. Possible studies of structure functions at JLab,
Workshop on the Jefferson Laboratory Upgrade to 12 GeV,
INT, Seattle, USA, September 14 - November 20, 2009.
145. Determination of nuclear PDFs in the EIC era,
Workshop on Physics at a High Energy Electron Ion Collider,
INT, Seattle, USA, October 19-23, 2009.
146. Tensor structure in high-energy proton-deuteron reactions,
Workshop on Short-Range Correlations and Tensor Structure at J-PARC,
KEK, Tsukuba, Japan, September 25, 2009.
147. Possible spin physics at J-PARC,
Berkeley Summer Program on Nucleon Spin Physics,
LBL, Berkeley, California, USA, June 1-12, 2009.
148. Current status of parton distribution functions in the nucleon and nuclei,
International Workshop on Quantum Chromodynamics from Colliders
to Super-High Energy Cosmic Rays,
ICTP, Trieste, Italy, May 15-29, 2009.
149. Nuclear effects in neutrino-nucleus DIS,
Sixth International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region,
Sitges, Barcelona, Spain, May 18-22, 2009.
150. Introduction to parton distribution functions in the nucleon and nuclei,
Workshop on New Interaction Code For Cosmic Air Shower,
ICRR, Kashiwa, Japan, December 26, 2008

151. Parton distribution functions in nuclei,
Nuclear Theory seminar,
Tokyo University of Science, Noda, Chiba-ken, Japan, October 14, 2008.
152. High-energy hadron physics at J-PARC,
Workshop on Future Projects on Hadron Physics at J-PARC,
Riken, Wako, Japan, September 1-2, 2008.
153. Discussions on Nucleon structure,
Workshop on Physics at J-PARC: New Aspect of Hadron and Nuclear Physics,
KEK, Tsukuba, Japan, August 7-9, 2008.
154. Parton distribution functions in the nucleon and nuclei,
Nuclear Theory Seminar,
Tokyo University of Science, Noda, Chiba, Japan, June 24, 2008.
155. AAC global analysis,
Joint Illinois-MIT-RBRC Workshop on Gluon Polarization in the Nucleon,
Urbana, Illinois, USA, June 16-17 2008.
156. Hard hadron reactions at J-PARC,
Nuclear Medium Effects on the Quark and Gluon Structure of Hadrons,
ECT*, Trento, Italy, June 3-7, 2008.
157. Parametrization of nuclear parton distribution functions,
Nuclear Medium Effects on the Quark and Gluon Structure of Hadrons,
ECT*, Trento, Italy, June 3-7, 2008.
158. High-energy hadron physics at J-PARC,
Sixth International Conference on Perspectives in Hadronic Physics,
ICTP, Miramare-Trieste, Italy, May 12-16, 2008.
159. Structure functions in the nucleon,
Workshop on Ultra-High Energy Cosmic Rays and Hadron Structure 2008,
KEK, Tsukuba, Japan, April 25-26, 2008.
160. High-energy hadron physics at J-PARC,
J-PARC Meeting for Spin and Hadron Physics,
Riken, Wako, Japan, April 7-8, 2008.
161. Possible studies of high-energy hadron structure at J-PARC,
4th International Workshop on Nuclear and Particle Physics at J-PARC,
Mito Plaza Hotel, Mito, Japan, March 5-7, 2008.
162. HKNS fragmentation functions and proposal for exotic-hadron search,
Workshop on Parton Fragmentation Processes in the Vacuum and in the Medium,
ECT*, Trento, Italy, February 25-29, 2008.
163. Nuclear modifications of parton distribution functions,
Workshop on Description of Lepton-Nucleus Reactions,
KEK, Tsukuba, Japan, December 22, 2007.
164. Global analysis of polarized parton distribution functions
by Asymmetry Analysis Collaboration,
Workshop on Global Analysis of Polarized RHIC and DIS Data,
BNL, Upton, USA, October 8, 2007.

165. Hadron physics at the 50 GeV proton beam at J-PARC, International Workshop on Dense and Cold Nuclear Matter and Hard Exclusive Processes, Ghent University, Ghent, Belgium, August 20-24, 2007.
166. Determination of parton distribution functions in nuclei, International Workshop on Dense and Cold Nuclear Matter and Hard Exclusive Processes, Ghent University, Ghent, Belgium, August 20-24, 2007.
167. Global NLO analysis of nuclear parton distribution functions, 9th International Workshop On Neutrino Factories, Superbeams and Betabeams, Okayama, Japan, August 6-11, 2007.
168. Global analysis for determining fragmentation functions and their uncertainties, XLIIInd Rencontres de Moriond QCD and High Energy Hadronic Interactions, La Thuile, Italy, March 17-24, 2007.
169. Recent progress on the determination of nuclear parton distribution functions, Workshop on From RHIC to LHC: Achievements and Opportunities, University of Washington, Seattle, USA, September 25 - December 8, 2006.
170. Hadron physics at J-PARC, Fifth International Conference on Perspectives in Hadronic Physics: Particle-Nucleus and Nucleus-Nucleus Scattering at Relativistic Energies, ICTP, Trieste, Italy, May 22 - 26, 2006.
171. Global analysis for nuclear PDFs, Workshop on Intersections of Nuclear Physics with Neutrinos and Electrons, JLab, Newport News, USA, May 4-5, 2006.
172. Global analysis for determining parton distribution functions in nuclei, XIV International Workshop on Deep Inelastic Scattering, Tsukuba, Ibaraki, Japan, April 20-24, 2006.
173. Tensor structure of the deuteron in Drell-Yan processes, Workshop on Hadron Structure at J-PARC, KEK, Tsukuba, Japan, November 30 - December 2, 2005.
174. A possible nuclear effect on the NuTeV $\sin^2 \theta_W$ anomaly, XVIIth Particles and Nuclei International Conference, Santa Fe, New Mexico, USA, October 24-28, 2005.
175. Global analysis for determining polarized parton distribution functions in the nucleon, XVIIth Particles and Nuclei International Conference, Santa Fe, New Mexico, USA, October 24-28, 2005.
176. Parton distribution functions in the nucleon and nuclei, Nuclear Theory Seminar, Tokyo University, Komaba, Tokyo, Japan, October 12, 2005.
177. Determination of nuclear parton distribution functions and their uncertainties, 2nd Joint Meeting of the Nuclear Physics Divisions of the APS and The Physical Society of Japan, Maui, Hawaii, USA, September 18-22, 2005.

178. Determination of parton distribution functions in the nucleon and nuclei,
Workshop on Parton Distributions in the 21st Century,
University of Washington, Seattle, USA, November 18-20, 2004.
179. Nuclear modification of valence-quark distributions
and its effects on NuTeV $\sin^2 \theta_W$ anomaly,
6th International Workshop on Neutrino Factories and Superbeams,
Osaka, Japan, July 26 - August 1, 2004.
180. AAC analysis of polarized parton distributions with uncertainties,
12th International Workshop on Deep Inelastic Scattering,
Strbske-Pleso, Slovakia, April 14-18, 2004.
181. Nuclear parton distribution functions and their effects on $\sin^2 \theta_W$ anomaly,
12th International Workshop on Deep Inelastic Scattering,
Strbske-Pleso, Slovakia, April 14-18, 2004.
182. Studies of nucleonic and nuclear structure in lepton scattering,
59th Japan-Physical-Society Meeting,
Joint Symposium on Nuclear and Nucleonic Reactions with Neutrino and Electron,
Kyushu University, Fukuoka, Japan, March 27-30, 2004.
183. Nuclear parton distribution functions with uncertainties,
3rd International Workshops on Neutrino-Nucleus Interactions in the Few-GeV Region,
Gran Sasso, Italy, March 17-21, 2004.
184. Polarized PDFs and their future prospects,
Japan-US Meeting on High-Energy Spin Physics,
Kyoto University, Kyoto, Japan, September 26-27, 2003.
185. Determination of parton distribution functions,
Generalized Parton Distributions and Hard Exclusive Processes,
INT, University of Washington, Seattle, USA, June 23 - August 29, 2003.
186. Determination of nuclear parton distribution functions
and its effects on heavy-ion reactions,
Workshop on the Quark-Gluon Plasma and Heavy-Ion Physics at RHIC and LHC,
Tokyo University, Tokyo, Japan, July 25, 2003.
187. Neutrino scattering physics at superbeams and neutrino factories,
5th International Workshop on Neutrino Factories and Superbeams,
Columbia University, New York, USA, June 5-11, 2003.
188. Structure of the nucleon and nuclei in lepton scattering,
4th Workshop on Neutrino Source and its Physics with Muon Storage Ring,
Tokyo Metropolitan University, Tokyo, Japan, May 16-17, 2003.
189. Nuclear modification of structure functions in lepton scattering,
Second International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region,
Irvine, California, USA, December 12-15, 2002.
190. Polarized parton distribution functions in the nucleon: AAC analysis,
Italy-Japan Symposium on the Origin of Nucleon Spin,
Miyazaki, Japan, November 18-19, 2002.
191. Polarized light-antiquark flavor asymmetry,
Summer Program on Current and Future Directions at RHIC,
BNL, USA, August 5-23, 2002.

192. Global analysis of nuclear DIS and Drell-Yan data,
Summer Program on Current and Future Directions at RHIC,
BNL, USA, August 5-23, 2002.
193. Summary of working group 3 (Non-oscillation neutrino physics: Physics and detector),
Fourth International Neutrino Factory Workshop,
Imperial College, London, England, July 1-6, 2002.
194. Analysis of F_2 and Drell-Yan data for nuclear parton distribution functions,
Fourth International Neutrino Factory Workshop,
Imperial College, London, England, July 1-6, 2002.
195. WG3 overview (Non-oscillation neutrino physics: Physics and detector) ,
Workshop on Neutrino Source and its Physics with Muon Storage Ring,
KEK, Tsukuba, Japan, June 14-15, 2002.
196. Possible studies of parton distribution functions at JHF,
Workshop on Nuclear Physics at JHF,
KEK, Tsukuba, Japan, May 13-14, 2002.
197. Systematic analysis of nuclear parton distributions,
57th Japan-Physical-Society Meeting,
Ritsumeikan University, Kusatsu, Shiga, Japan, March 24-27, 2002.
198. Structure functions of the nucleon and nuclei in neutrino reactions,
First International Workshop on Neutrino-Nucleus Interactions in the Few GeV Region,
KEK, Tsukuba, Japan, December 13-16, 2001.
199. Parametrization of parton distribution functions in nuclei,
International Symposium on Electromagnetic Interactions in Nuclear and Hadron Physics,
RCNP, Osaka, Japan, December 4-7, 2001.
200. Parton distributions in the nucleon and nuclei,
Workshop on Physics in ep Collision,
KEK, Tsukuba, Japan, November 9-10, 2001.
201. A model prediction for polarized antiquark flavor asymmetry,
3rd Circum-Pan-Pacific Symposium on High Energy Spin Physics,
Beijing, China, October 8-13, 2001.
202. Light-antiquark flavor asymmetry in polarized distributions,
Topical Workshop on Transverse Spin Physics,
DESY-Zeuthen, Germany, July 9-11, 2001.
203. Determination of parton distribution functions in nuclei,
6th Workshop on Non-Perturbative Quantum Chromodynamics,
Paris, France, June 5-9, 2001.
204. Studies of parton distributions at a neutrino factory,
Third International Workshop on Neutrino Factories based on Muon Storage Rings,
KEK, Tsukuba, Japan, May 24-30, 2001.
205. Parton distribution functions in nuclei,
9th International Workshop on Deep Inelastic Scattering,
Bologna, Italy, April 27 - May 1, 2001.
206. Parametrization of nuclear parton distributions,
International Symposium on Nuclear Physics,
Mumbai, India, December 18-22, 2000.

207. Polarized structure functions of the deuteron,
4th International Spin Physics Symposium,
Osaka, Japan, October 16-21, 2000.
208. Q^2 evolution of transversity distributions: applications,
Workshop on Future Transversity Measurements,
BNL, New York, USA, September 18-20, 2000.
209. Structure-function studies at a neutrino factory,
Workshop on Neutrino Factory,
KEK, Tsukuba, Japan, September 13-14, 2000.
210. Parametrization of polarized parton distributions,
XXXVth Rencontres de Moriond “QCD High Energy Hadronic Interactions”,
Les Arcs, Savoie, France, March 18-25, 2000.
211. AAC polarized parton distributions,
Joint Workshops “Predictions and uncertainties for RHIC spin physics”
and “Event generators for RHIC spin physics III”,
BNL, New York, USA, March 6-31, 2000.
212. Possible studies of spin-one nuclei at eRHIC and RHIC,
eRHIC Workshop,
BNL, USA, December 3-4, 1999.
213. Possible studies of parton distributions at JHF: polarized p-d Drell-Yan process,
Workshop on Di-lepton Experiments at 50-GeV PS,
KEK, Tsukuba, Japan, October 29-30, 1999.
214. Polarized proton-deuteron Drell-Yan process,
RCNP-TMU Symposium on Spins in Nuclear and Hadronic Reactions,
Tokyo Metropolitan University, Tokyo, Japan, October 26-28, 1999.
215. Flavor asymmetry of polarized parton distributions in Drell-Yan processes,
RHIC Spin Workshop,
BNL, USA, October 6-8, 1999.
216. Structure functions in polarized proton-deuteron Drell-Yan processes,
7th International Workshop on Deep Inelastic Scattering and QCD,
Zeuthen, Germany, April 19-24, 1999.
217. Parton-distribution studies in the medium and large- x regions,
JHF K-Arena Workshop,
KEK, Tsukuba, Japan, March 17-19, 1999.
218. Unpolarized and polarized parton distributions in nuclei,
RIKEN-BNL Workshop on Hard Parton Physics in High Energy Nuclear Collisions,
BNL, USA, March 1-5, 1999.
219. Probing hadron spin structure with polarized photons,
Workshop on The US - Japan Joint Workshop on
Probing Hadron Structure with Polarized Photons,
Honolulu, Hawaii, USA, February 22-25, 1999.
220. Polarized proton-deuteron Drell-Yan processes and parton distributions,
KEK-Tanashi International Symposium on Physics of Hadrons and Nuclei,
Tokyo, Japan, December 14-17, 1998.

221. Polarized proton-deuteron Drell-Yan processes,
Riken Winter School on Structure of Hadrons – Introduction to QCD Hard Process,
Shimoda, Japan, December 9-12, 1998.
222. Polarized proton-deuteron Drell-Yan processes,
Workshop on Recent and Future Studies on the Nucleon Spin,
Nagoya, Japan, November 24, 1998.
223. Transversity distributions and spin asymmetries,
13th International Symposium on High Energy Spin Physics,
Protvino, Russia, September 8-12, 1998.
224. Studies of transversity distributions at RHIC,
Workshop on RHIC-Spin Physics,
BNL, USA, April 27-29, 1998.
225. Spin asymmetries at RHIC and polarized parton distributions,
6th International Workshop on Deep Inelastic Scattering and QCD,
Brussels, Belgium, April 4-8, 1998.
226. Parton distributions: parametrization and possible studies at JHF,
Weekly Nuclear Theory Seminar,
KEK, Tanashi, Tokyo, Japan, March 11, 1998.
227. Studies of structure functions at a low-energy facility,
Workshop on Future Plan at RCNP,
Osaka, Japan, March 9-10, 1998.
228. Analyses of the nucleon spin structure functions,
Riken Symposium on Quarks and Gluons in the Nucleon,
Wako, Japan, November 28-29, 1997.
229. Internal structure of the proton,
Annual meeting of the Saga Science Education Society,
Imari, Saga, Japan, November 19, 1997.
230. Studies of polarized parton distributions at RHIC,
Japan-Physical-Society Meeting,
Tokyo Metropolitan University, Tokyo, Japan, September 20-23, 1997.
231. Two loop anomalous dimensions for the structure function h_1 ,
Riken-BNL workshop on Perturbative QCD as a Probe of Hadron Structure,
BNL, USA, July 14-25, 1997.
232. One and two loop anomalous dimensions for the chiral-odd structure function h_1 ,
10th Summer School and Symposium on Nuclear Physics
“QCD, Lightcone Physics and Hadron Phenomenology”,
Seoul National University, Seoul, Korea, June 23 - June 28, 1997.
233. Status report on Q^2 evolution studies of g_1 ,
Riken Seminar,
Riken, Wako, Japan, March 27, 1997.
234. Antiquark flavor asymmetry with new accelerator facilities,
International Workshop on Exciting Physics with New Accelerator Facilities,
Spring-8, Nishi-Harima, Japan, March 11-13, 1997.

235. Q^2 evolution of polarized structure functions,
Workshop on New Mexico Spin Physics Coalition,
Española, New Mexico, USA, February 24-26, 1997.
236. Q^2 evolution program for polarized parton distributions,
Riken Seminar,
Riken, Wako, Japan, October 30, 1996.
237. Flavor asymmetry $\bar{u} - \bar{d}$ in the nucleon,
Circum-Pan-Pacific Workshop on High Energy Spin Physics'96,
Kobe, Japan, October 2-4, 1996.
238. Nucleon and nuclear structure functions,
Kantoh-District Workshop on Hadron Structure,
Hachioji, Tokyo, Japan, September 20-21, 1996.
239. Light quark flavor asymmetry $\bar{u} - \bar{d}$,
RHIC-SPIN Collaboration Meeting,
Centre de Physique Theorique, Marseille, France, September 16-17, 1996.
240. Numerical solution for Q^2 evolution equations,
RHIC-SPIN Collaboration Meeting,
Centre de Physique Theorique, Marseille, France, September 16-17, 1996.
241. Numerical solution of NLO Q^2 evolution equations for spin-dependent structure functions,
12th International Symposium on High-Energy Spin Physics,
Vrije Universiteit, Amsterdam, Netherlands, September 10-14, 1996.
242. Nuclear shadowing in a parton model,
First Asia Pacific Conference on Strong Interactions,
Taipei, Taiwan, August 28-31, 1996.
243. Status report on spin-dependent parton distributions,
Riken Seminar,
Riken, Wako, Japan, June 18, 1996.
244. Nuclear modification of the flavor asymmetry $\bar{u} - \bar{d}$,
XIV International Conference on Particles and Nuclei,
College of William and Mary, Williamsburg, USA, May 22-28, 1996.
245. Shadowing and Q^2 evolution of nuclear parton distributions,
Workshop on Quark and Gluon Structure of Nucleons and Nuclei,
University of Washington, Seattle, USA, February 20 - March 31, 1996.
246. Parton distributions in the nucleon and in nuclei,
Riken Seminar,
Riken, Wako, Japan, February 23, 1996.
247. Parton distributions in nuclei: overview and prospect,
Workshop on New Developments in QCD and Hadron Physics,
Kyoto, Japan, January 22-24, 1996.
248. Shadowing aspects of nuclear parton distributions,
Japan-Australia Workshop on Quarks, Hadrons and Nuclei,
University of Adelaide, Australia, November 15-24, 1995.
249. Antiquark distribution $\bar{u} - \bar{d}$ in nuclei,
International Workshop on the Role of the Nuclear Medium in High-Energy Reactions,
ECT*, Trento, Italy, September 25 - October 6, 1995.

250. Parton distributions in the nucleon and nuclei,
Seminar, Physics Department, Brookhaven National Laboratory,
Upton, New York, USA, July 28, 1995
251. Nuclear modification in the structure function F_3 ,
IV International Symposium on Weak and Electromagnetic Interactions in Nuclei,
Osaka, Japan, June 12-16, 1995.
252. Parton distributions in nuclei,
Nuclear Physics seminar, Kyushu University,
Fukuoka, Japan, April 21, 1995
253. ϕ radiative decays and scalar meson structure,
Symposium on Quark Nuclear Physics with GeV Cooler-Ring Protons and Beyond,
RCNP, Osaka, September 8-10, 1994.
254. Parton distributions in nuclei,
International Symposium on Medium Energy Physics,
Beijing, China, August 22-26, 1994.
255. Studies of f_0 and a_0 meson structures at ϕ factory
and their effects on CP violation research,
Workshop on B, D, K Meson Physics, Quark Mixing, and CP Violation,
YITP, Kyoto, July 18-19, 1994.
256. Parton distributions in nuclei,
International Workshop on Hadron Structure and QCD in Hard Processes,
ECT*, Trento, Italy, July 11-17, 1994.
257. Numerical solution of Altarelli-Parisi equations by Laguerre polynomials,
Japan Physical Society meeting,
Kochi, Japan, October 3-6, 1993.
258. Tensor structure function $b_1(x)$,
Workshop on Hadron and Nuclear Structure Functions,
RCNP, Osaka, Japan, July 26-30, 1993.
259. Spin and flavor sum rules based on a parton model,
XIII International Conference on Particle and Nuclei,
Perugia, Italy, June 28 - July 2, 1993.
260. SU(2) flavor breaking in antiquark distributions,
XIII International Conference on Particle and Nuclei,
Perugia, Italy, June 28 - July 2, 1993.
261. Structure functions of nucleons and nuclei,
Meeting of Nuclear Theory Groups in Kyushu,
Kushikino, Kagoshima, Japan, June 20, 1993.
262. Nuclear shadowing and gluon distribution,
German Physical Society Meeting,
Mainz, Germany, March 24, 1993.
263. Parton distributions in nuclei,
Seminar, Institute for Nuclear Physics, University of Mainz,
Mainz, Germany, January 18, 1993.

264. Test of scalar meson structure in ϕ radiative decays,
International Workshop on Flavor and Spin in Hadronic and Electromagnetic Interactions,
Torino, Italy, September 21-23, 1992.
265. Scalar meson substructures in ϕ radiative decays,
International Conference on the Structure of Baryons and Related Mesons,
Yale University, USA, June 1-4, 1992.
266. “Local” EMC effects and the J/ψ suppression,
International Workshop on Gross Properties of Nuclei and Nuclear Excitations,
Hirschegg, Austria, January 20-25, 1992.
267. Local EMC effects,
13th International Conference on Few Body Problems in Physics,
Adelaide, Australia, January 5-11, 1992.
268. Δ dipole and quadrupole moments,
Workshop on Baryon Spectroscopy and the Structure of the Nucleon,
Saclay, September 23-25, 1991.
269. Gottfried sum rule and $\bar{u} - \bar{d}$ distribution in the nucleon,
IVth Conference on the Intersections between Particle and Nuclear Physics,
Tucson, Arizona, May 24-29, 1991.
270. Δ electromagnetic moments,
XII International Conference on Particle and Nuclei,
Cambridge, Massachusetts, USA, June 25-29, 1990.
271. $N(e, e'\gamma)$ and the $N-\Delta$ transition quadrupole moment,
International Symposium on Weak and Electromagnetic Interactions in Nuclei,
Montreal, Canada, May 15-19, 1989.
272. Pionic contribution to the $N-\Delta$ transition quadrupole moment,
International Symposium on Weak and Electromagnetic Interactions in Nuclei,
Montreal, Canada, May 15-19, 1989.
273. Oscillations of the polarized vacuum around a large Z “nucleus”,
International Workshop on Gross Properties of Nuclei and Nuclear Excitations XVII,
Hirschegg, Austria, January 16-21, 1989.
274. Oscillations of the polarized vacuum around a large $Z(\approx 180)$ “nucleus”,
Workshop on Microscopic Models in Nuclear Structure Physics,
Oak Ridge, Tennessee, October 3-6, 1988.
275. y -scaling in a simple quark model,
3rd Conference on the Intersections between Particle and Nuclear Physics,
Rockport, Maine, May 14-19, 1988.