



Hitoshi MIYATA, Ph.D.

Professor

Program: Fundamental Science

Area: Physics

Undergraduate: Dept. of Science

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Professional Expertise

The research subjects of high energy physics laboratory of Niigata university (NGTHEP) are the following.

- 1) Study of particle-antiparticle asymmetry using B mesons which are produced by the interaction of high energy electrons and positrons. (Belle & Belle-II experiment)
- 2) Research of neutrino oscillation by the measurement of neutrino flux from the nuclear reactor. (Double Chooz experiment)
- 3) R&D of new radiation detectors and those applications.

In March 1997, the agreement of the academic exchange in the faculty of science was concluded between Niigata University and Mindanao State University- Iligan Institute of Technology (MSU-IIT, Philippines). Since then, NGTHEP accepted five and one graduate students thanks to JASSO and government scholarships, respectively. We may accept foreign graduate students not only from MSU-IIT but also the member universities of the physical society-SPVM (Samahang Pisika ng Visayas at Mindanao).



With the member of the SPVM Executive Committee in the Philippines.

Research Fields of Interest

Experimental high energy physics and its application.

Professional Societies and Activities

1. The Physical Society of Japan
2. American Physical Society
3. The Japan Society of Applied Physics
4. Samahang Pisika ng Visayas at Mindanao (SPVM) (Consultant of international affairs)
5. Honorary professor in MSU-IIT Physics, Philippines.

Major Publications

Papers

- [1] Stability of Gd-loaded liquid scintillator for reactor neutrino detection. M. Katsumata, H. Miyata, N. Tamura, T. Kawasaki Nucl.Instrum.Meth.A629:50-56, 2011.
- [2] Measurements of Branching Fractions for $B^0 \rightarrow D_s^+ \pi^-$ and $B^0 \rightarrow D_s^+ K^-$. A. Das, T. Aziz, H. Miyata, et al. Phys.Rev.D82, 051103, 6pages, 2010
- [3] Measurement of $\Upsilon(5S)$ decays to B^0 and B^+ mesons. A. Drutskoy, I. Adachi, H. Miyata, et al. Phys.Rev.D81, 112003, 6pages, 2010
- [4] Beam test results of a high-granularity tile/fiber electromagnetic calorimeter. H. Ono, H. Miyata, S. Iba et al. Nucl. Inst. Meth. A600, 398-407, 2009
- [5] High-statistics study of neutral-pion pair production in two-photon collisions. S. Uehara, Y. Watanabe, H. Miyata et al. Phys. Rev. D79, 052009, 22pages, 2009
- [6] Observation of the Doubly Cabibbo- Suppressed Decay $D^+(s) \rightarrow K^+ K^+ \pi^-$. B.R. Ko, E. Won, H. Miyata et al. Phys. Rev. Lett. 102, 221802, 5pages, 2009
- [7] Observation of $B^+ \rightarrow \psi(2S) \pi^+$ and search for direct CP-violation. V. Bhardwaj, R. Kumar, H. Miyata et al. Phys. Rev. D 78, 051104(R), 6 pages, 2008
- [8] Search for $B^0 \rightarrow J/\psi \pi^0$ decays. Y.Liu, K.Trabelsi, H. Miyata, et al. Phys. Rev. D 78, 011106, 5pages, 2008
- [9] Performance of a shower maximum detector with avalanche photodiode readout. S. Itoh, T. Takeshita, H. Miyata, H. Ono, et al. Nucl.Instrum.Meth.A589:370-382, 2008
- [10] Observation of Two Resonant Structures in $e^+e^- \rightarrow \pi^+ \pi^- \psi(2S)$ via Initial- State Radiation at Belle. X. L. Wang, C. Z. Yuan, H. Miyata, et al. Phys. Rev. Lett. 99, 142002, 5 pages, 2007
- [11] Measurement of the $e^+e^- \rightarrow \pi^+ \pi^- J/\psi$ Cross Section Via Initial-State Radiation at Belle. C. Z. Yuan, H. Miyata, et al. Phys. Rev. Lett. 99, 182004, 6 pages, 2007
- [12] On-site underground background measurements for the KASKA reactor neutrino experiment. H. Furuta, H. Miyata, Y. Sakamoto, et al. Nucl. Inst. Meth. A568, 710-715, 2006
- [13] Fine-granularity electromagnetic calorimeter using plastic scintillator strip-array. A. Nagano, S. Yamauchi, H. Miyata, H. Ono, et al. Nucl. Inst. Meth. A557, 460-478, 2006
- [14] Study of Cascade Shower Fluctuation with a Tile/Fiber Sampling Calorimeter. N. Nakajima, H. Miyata, H. Ono et al. J. Phys. Soc. Jpn. Vol. 74, No. 10, 2716- 2727, 2005
- [15] Beam Test of a Prototype Fine-Granularity Scintillator Tile EM Calorimeter. A.L.C. Sanchez, H. Miyata, N. Nakajima, H. Ono, et al. Nucl. Inst. Meth. A546, 535-543, 2005
- [16] Evidence of $B^0 \rightarrow \rho^0 \pi^0$. J. Dragic, T. Gershon, H. Miyata, et al. Phys. Rev. Lett. 93, 131802, 2004
- [17] Observation of Large CP Violation and Evidence for Direct CP Violation in $B^0 \rightarrow \pi^+ \pi^-$ Decays. K. Abe, H. Miyata, et al. Phys. Rev. Lett. 93, 021601, 2004