

CURRICULUM VITAE

Oleksandr P. Dzyubak

(Alexandr P. Dzyubak - another name spelling)

Mailing Address: Mayo Clinic Foundation
Department of Radiology
Mayo Bldg E3
200 First Street SW
Rochester, MN 55905

Phone (work): (507) 538-1625

Email: Dzyubak.Oleksandr@mayo.edu
Home page: <http://www.interdiscipline.org/>

EDUCATION

- Kharkov State University, Kharkov, Ukraine, 1984–1987, Ph.D. in Physics and Math, 1990.
Dissertation supervisors: Academician of Ukrainian National Academy of Science, Prof. I.I. Zalyubovskii
Prof. I.M. Karnaukhov
- Kharkov State University, Kharkov, Ukraine, 1981 – 1983, M.S. in Physics with Honors, 1983
- Kharkov State University, Kharkov, Ukraine, 1977 – 1981, B.S. in Physics with Honors, 1981

CONTINUING EDUCATION/TRAININGS/CERTIFICATES

- Elements of Biology, 3 Credit Hours.
Rochester Community and Technical College, Rochester, MN, 2007.
- Fundamentals of Anatomy and Physiology, 4 Credit Hours.
Rochester Community and Technical College, Rochester, MN, 2007.
- “Multidetector-Row CT”, 37 AMA PRA Category Credits.
Continuing Medical Education Program, Stanford University School of Medicine, Department of Radiology,
San Francisco, CA, 2007.
- Intensive GEANT4 (simulation and programming package) workshop on high energy/nuclear physics and
medical applications. Jefferson Lab, Newport News, VA, 2006.

PROFESSIONAL POSITIONS

- Research Fellow, Mayo-Rochester Clinic Foundation, Department of Radiology,
Computerized Tomography Clinical Innovation Center (**CT CIC**), Rochester, MN, 2006 – present
- Research Scientist, University of South Carolina, Columbia, SC, 2002 – 2006
- Research Associate, University of Rochester, Rochester, NY, 2001 – 2002
- Senior Research Scientist, National Science Center “KIPT”, Institute of High Energy Physics & Nuclear
Physics, Kharkov, Ukraine, 1997 – 2001

- Research Scientist, The Academy of Medical Science of Ukraine, Institute of Endocrine Pathology Problems, Kharkov, Ukraine, 1995 – 1996
- Research Scientist, National Science Center “KIPT”, Institute of High Energy Physics & Nuclear Physics, Kharkov, Ukraine, 1989 – 1997
- Engineer-Researcher, National Science Center “KIPT”, Kharkov, Institute of High Energy Physics & Nuclear Physics, Ukraine, 1987– 1989
- Research Scientist, Kharkov State University, Kharkov, Ukraine, 1985 – 1987
- Teaching Assistant, Kharkov State University, Kharkov, Ukraine, 1983 – 1984

GUEST/VISITING RESEARCH SCIENTIST APPOINTMENTS

- Guest Scientist, Jefferson Lab, Newport News, VA, 2002 – present
- Visiting Research Scientist, Fermi National Lab, Batavia, IL, 2000 – 2002
- Guest Scientist, Joint Institute for Nuclear Research, Dubna, Russia, 1993 – 2000
- Visiting Research Scientist, Institute of Particle and Nuclear Physics, Prague, Czech Republic, 1998-1999
- Visiting Research Scientist, Laboratoire National Saturne, Saclay, France, 1992 – 1993
- Guest Scientist, Institute for High Energy Physics, Protvino, Russia, 1986 – 1994
- Guest Scientist, Yerevan Physics Institute, Yerevan, Armenia, 1984 – 1986

TEACHING EXPERIENCE

- In the Department of Experimental Nuclear Physics, Kharkov State University, Kharkov, Ukraine I taught nuclear physics course 1983 – 1984. I taught introductory-level physics courses in the Department of Experimental Nuclear Physics, Kharkov State University 1983 – 1984. They include Foundations of Physics (Theory of Scattering, Numerical Recipes in Physics/Programming, and Instrumentation and Electronics for Nuclear Physics) primarily to physics majors. Approximately 100 students were enrolled in those classes.
- *Mathematical modeling experimental data*, Ukrainian National Scientific Center of Medicinal Substances, Kharkov, Ukraine, 1996 – 1999. Monthly scheduled.
- *Modeling transfer of radioactive substances from polluted soil to herbs*, Ukrainian National Research Institute of Forestry and Forest Agromelioration, 1996 – 1998. Monthly scheduled.
- *High Resolution NMR spectroscopy*, The Academy of Medical Science of Ukraine, Institute of Endocrine Pathology Problems, 1995 – 1996. Monthly scheduled.

AWARDS and HONORS

- **Certificate of Senior Scientist. Specialty: Nuclear, Particle, and High Energy Physics.** Supreme Certificate Committee of Ukraine, Kiev, Ukraine, 2000.
- **Inventor’s Certificate of the USSR # 1398550.** A.P. Dzyubak, I.M. Karnaukhov, A.A. Lukhanin, and A.Yu. Neffa. *Cryogenic installation*. Bulletin of the Discovery and Invention USSR, **28**, 272 (1987).
- **First Winner of 1979 Best Student Project Competition.** *Experimental studies of cancer cell membrane potentials*, Kharkov State University, Kharkov, Ukraine.

PROFESSIONAL SERVICES

- **Membership:**

Member, Radiological Society of North America (RSNA), since 2007
Full Member, American Association of Physicists in Medicine (AAPM), since 2006
Member, Institute of Electrical and Electronics Engineers (IEEE), since 2006
Full Member, Sigma Xi, the Scientific Research Society, since 2005
Member, Mathematical Association of America (MAA), since 2004
Member, South Carolina Academy of Science (SCAS), since 2003
Member, American Physical Society (APS), since 2003

- **User Groups/Collaborations:**

Member, CEBAF Large Acceptance Spectrometer (CLAS) Collaboration, JLab, Newport News, VA, USA, since Spring of 2002
Member, Users Group at JLab, Newport News, VA, USA, since Spring of 2002
Member, Users Group at Joint Institute Nuclear Research (Movable Polarized Target Collaboration), Dubna, Russia since 1993
Member, Users Group at National Science Center “KIPT”, Institute of High Energy Physics & Nuclear Physics, Kharkov, Ukraine, since 1982

- **Students and Young Professionals Whom I Have Advised:**

Nicolas Recalde, *Graduate Student*, University of South Carolina, Columbia, SC, USA, 2002-2003
Andrei Belyaev, *Research Scientist*, National Science Center “KIPT”, Institute of High Energy Physics & Nuclear Physics, Kharkov, Ukraine, 1997-2000
Oleksandr Lukhanin, *Graduate Student*, Kharkov State University, Kharkov, Ukraine, 1997-1999
Valerii Gavrikov, *Research Scientist*, National Science Center “KIPT”, Institute of High Energy Physics & Nuclear Physics, Kharkov, Ukraine, 1995-1997
Irina Stepanova, *Computer Scientist*, Joint Institute for Nuclear Research (JINR), Dubna, Russia, 1996-1997
Volodymyr Romanov, *Research Scientist*, Kharkov State University, Kharkov, Ukraine, 1993-1995
Nikolai Lotochuk, *Graduate Student*, Kharkov State University, Kharkov, Ukraine, 1988-1991

RESEARCH INTERESTS

- Physics in Medicine and Environmental Science
- Computerized Tomography (CT) and Magnetic Resonance Imaging (MRI)
- Digital signal and image processing
- Optimization of computer simulations
- Nonlinear and stochastic systems
- Nuclear and particle physics

SKILLS

- Computerized Tomography (CT) technique
- Nuclear Magnetic Resonance (NMR) technique

- Monte Carlo simulations of interaction of particles and photons with materials (*GEANT and EGS4(EGSnrc) simulation packages*)
- Computer Simulation Packages: *Matlab, Octave, SciLab (a free Matlab clone)*
- Magnet design (*OPERA/Tosca and Poisson/Superfish packages*)
- Computer Aided Design Systems (CAD-systems) (*AutoCAD, QCAD*)
- Developing software for data acquisition and post-processing (*Fortran, C/C++, Lab-Windows*)
- Developing hardware (*Electronics, low temperature and vacuum techniques*)
- Maintaining Operating Systems: *Linux (Debian), UNIX (FreeBSD), Windows*
- Developing and maintaining Polarized Targets (highly oriented nuclei)

CO-AUTHOR OF APPROVED PROPOSALS

- V. Crede(spokesperson) et al., “Measurement of $\pi^+\pi^-$ -photoproduction in double-polarization experiments using CLAS”, Jefferson Lab Proposal P-06-013.
- Eu. Pasyuk(spokesperson) et al., “Measurement of polarization observables in η -photoproduction with CLAS”, Jefferson Lab Proposal E-05-012.
- D. Sober(spokesperson) et al., “Helicity Structure of Pion Photoproduction”, Jefferson Lab Proposal E-04-102.
- S. Strauch(spokesperson) et al., “Pion Photoproduction from a Polarized Target”, Jefferson Lab Proposal E-03-105.
- F. Klein(spokesperson) et al., “Search for Missing Nucleon Resonances in Hyperon Photoproduction”, Jefferson Lab Proposal E-02-112.

PATENTS AND INVENTOR'S CERTIFICATES

- **Patent pending**

O.P. Dzyubak, A.N. Primak, C.H. McCollough, “*Object identification in dual energy contrast-enhanced CT images.*”

- **Inventor's Certificate of the USSR # 1398550.**

A.P. Dzyubak, I.M. Karnaukhov, A.A. Lukhanin, and A.Yu. Neffa, “*Cryogenic installation.*” Bulletin of the Discovery and Invention USSR, **28**, 272 (1987).

ABSTRACT SUBMISSION

1. X. Liu *et al.*, “Quantitative imaging of chemical composition using dual-energy, dual-source CT”, SPIE Medical Imaging International Conference, 16 - 21 February 2008, San Diego, CA, USA.
2. N. Takahashi *et al.*, “Dual-energy CT iodine-subtraction “virtual non-contrast” technique for detection of urinary stones in the opacified collecting system: feasibility phantom study”, Society of Gastrointestinal Radiologists and Society of Uroradiology, April 15-20 2007, Coconut Point, Naples, FL, USA.
3. A. Primak *et al.*, “A Technical Solution to Avoid Partial Scan Artifacts in Myocardial Perfusion Imaging using MDCT”, 49-th AAPM Annual Meeting, July 22-26, 2007, Minneapolis Convention Center, Minneapolis, MN, USA.
4. O.P. Dzyubak *et al.*, “The use of CT dual-energy subtraction imaging to detect kidney stones amid iodinated contrast material”, 49-th AAPM Annual Meeting, July 22-26, 2007, Minneapolis Convention Center, Minneapolis, MN.
5. O.P. Dzyubak *et al.*, “The use of dual-energy CT virtual non-contrast images to discriminate hyperattenuating cysts from iodine-enhanced solid masses: A proof of concept phantom study”, RSNA, November 25-30, 2007, Chicago, IL.
6. O.P. Dzyubak *et al.*, “Accuracy of calcified plaque removal using dual-energy CT and three material decomposition software: A phantom study”, RSNA, November 25-30, 2007, Chicago, IL.
7. O.P. Dzyubak *et al.*, “Evaluation of dual-energy CT virtual non-contrast techniques for the detection of kidney stones amid iodinated contrast material”, RSNA, November 25-30, 2007, Chicago, IL.
8. C.L. Brown *et al.*, “Dual-Energy CT Iodine Overlay Technique for Characterization of Renal Masses as Cyst or Solid: A Phantom Feasibility Study”, RSNA, November 25-30, 2007, Chicago, IL.
9. M.R. Bruesewitz *et al.*, “Dual Energy Computed Tomography: How Does it Work and What Can it Do?”, RSNA, November 25-30, 2007, Chicago, IL.
10. C.H. McCollough *et al.*, “ECG-based tube current modulation: Just how much can dose be reduced?”, RSNA, November 25-30, 2007, Chicago, IL.
11. E. McDonald *et al.*, “Use of 80 kV Tube Energy in Perfusion CT: When is it OK?”, RSNA, November 25-30, 2007, Chicago, IL.
12. A. Primak *et al.*, “Methods to reduce or eliminate partial scan artifacts in cardiac CT”, RSNA, November 25-30, 2007, Chicago, IL.

13. N. Takahashi *et al.*, “Dual-energy CT iodine-subtraction virtual noncontrast technique for detection of urinary stone in the iodine filled collecting system: a phantom study”, RSNA, November 25-30, 2007, Chicago, IL.
14. L. Yu *et al.*, “Dual-source dual-energy CT (DECT) combined images can provide improved image quality relative to single-energy CT with no increase in patient dose”, RSNA, November 25-30, 2007, Chicago, IL.

PROFESSIONAL PUBLICATIONS

1 Publications in Refereed Journals

Medical Physics.

1. A. Primak *et al.*, “A Technical Solution to Avoid Partial Scan Artifacts in Cardiac MDCT”, to be published in Medical Physics.
2. A. Primak *et al.*, “Non-invasive differentiation of uric acid versus non-uric acid kidney stones using dual-energy CT”, submitted to Investigative Radiology.
3. A.A. Orlov *et al.*, “Ecological estimation of radioactive pollution in herbal raw material in the region of Ukrainian Polesie”, Hygiene of populated areas, **36**, 494 (2000).
4. Yu.I. Gubin, O.P. Dzyubak, S.N. Dzyubak, N.F. Komisarenko, V.P. Krasnov, A.A. Orlov, V.Ph. Popov, P.V. Sorokin, and P.P. Khvorost, “Studies of Cs-137 transfer from herb raw material to tinctures”, Ukrainian Journal of Radiology **8**, 168 (2000).
5. V.R. Lyubinskij, E.P. Sysoeva, O.P. Dzyubak, S.N. Dzyubak, and Yu.I. Gubin, “Development of high-sensitivity spectrometer for radiometric control of medicinal preparations”, Ukrainian Journal of Radiology **7**, 474 (1999).
6. Yu.I. Gubin, O.P. Dzyubak, S.N. Dzyubak, N.F. Komisarenko, V.P. Krasnov, A.A. Orlov, V.Ph. Popov, P.V. Sorokin, and P.P. Khvorost, “Correlation of ^{137}Cs extraction from the medicinal raw materials and alcohol concentration in the solvent”, Ukrainian Journal of Radiology **7**, 469 (1999).

Chaos. Nonlinearity.

7. J. Awrejcewicz, O. Dzyubak, and L. Dzyubak, “Chaos in the three-well potential system”, Mechanics Research Communications **31**, 287 (2004).
8. V.P. Berezovoj, Yu.L. Bolotin, A.P. Dzyubak, V.V. Yanovsky, and A.V. Zhiglo, “Nuclear Stochastic Resonance”, JETP Letters **74**, 411 (2001).

Magnetic Resonance. Polarized Targets.

9. O. Dzyubak, C. Djalali, N. Recalde, and D. Tedeschi, “Design of internal superconducting holding magnet for the JLab Hall-B Frozen Spin Polarized Target”, Nucl. Instr. Meth. in Phys. Res. A **526**, 132, (2004).
10. A.A. Belyaev, *et al.*, “Magnetic resonance of chromium (V) with 2-hydroxy-2ethylbutyrates”, Journal of Applied Spectroscopy, **68**, 623 (2001).
11. A.A. Belyaev, A.P. Dzyubak, A.A. Lukhanin, “The Employment of fitting programs for deuteron polarization calculation in a nuclear polarized target”, Questions on Nuclear Science and Technology: Series on Nuclear Physics Studies (Voprosy Atomnoy Nauki i Techniki – Seria: Nuclear Physics Studies), Kharkov (KIPT Press), **2(36)**, 38 (2000).
12. N.S. Borisov *et al.*, “Frozen spin solid targets developed at the laboratory of nuclear problems (JINR, Dubna)”, Czechoslovak Journal of Physics, **50** (Part 2, Suppl. 1), 325 (2000).
13. N.A. Bazhanov *et al.*, “Frozen spin solid targets developed at the Laboratory of Nuclear Problems (JINR, Dubna)”, Nucl. Instr. Meth. A **402**, 484 (1998).
14. N.A. Bazhanov *et al.*, “A movable polarized target for high energy spin physics experiments”, Nucl. Instr. Meth. A **372**, 349 (1996).
15. F. Lehar *et al.*, “The movable polarized target as a basic equipment for high energy spin physics experiments at the JINR-Dubna accelerator complex”, Nucl. Instr. Meth. A **356**, 58 (1995).
16. A.V. Vertii *et al.*, “Spectral characteristics of ammonia irradiated at 90 K”, Sov. Phys. Dokl. **35**, 899 (1990).
17. K.Sh. Agababian *et al.*, “Measurement of polarization parameters Σ , T , and P in photoproduction of π^0 at energies $E_\gamma = 0.9 - 1.35$ GeV”, Sov. J. Nucl. Phys. **50(5)**, 834, (1989).
18. A. Belyaev, A.P. Dzyubak, A.A. Lukhanin, “Manufacturing the ammonium samples for Polarized Targets”, Problems of Nuclear Physics and Cosmic Rays (Kharkov University Press), **28**, 45 (1987).
19. A.P. Dzyubak, I.M. Karnaukhov, A.A. Lukhanin, and A.Yu. Neffa, “Cryogenic installation”. Author certificate of the USSR # 1398550. Bulletin of the Discovery and Invention USSR, **28**, 272, (1987).

Movable Polarized Target Collaboration. Dubna(Russia).

20. V.I. Sharov *et al.*, “Measurements of energy behavior of spin-dependent np observables over a GeV region. Results and prospects. Dubna DELTA-SIGMA experiment” Czechoslovak Journal of Physics, **51** (Suppl. A), A87 (2001).
21. V.I. Sharov *et al.*, “Measurements of the neutron-proton total cross section difference $\Delta\sigma_L(np)$ at 1.59, 1.79 and 2.20 GeV” Czechoslovak Journal of Physics, **50** (Part 2, Suppl. 1), 401 (2000).
22. V.I. Sharov *et al.*, “Measurements of the np total cross-section difference $\Delta\sigma_L$ at 1.59, 1.79 and 2.20 GeV”, Eur. Phys. J. C **13**, 255 (2000).
23. B.P. Adiasevich *et al.*, “Measurement of the total cross section difference $\Delta\sigma_L$ in np transmission at 1.19, 2.49 and 3.65 GeV”, Z. Phys. C **71**, 65 (1996).

Nucleon-Nucleon Collaboration. Saclay(France).

24. J. Ball *et al.*, “Proton and neutron polarized targets for nucleon-nucleon experiments at SATURNE II”, Nucl. Instr. Meth. A **381**, 4 (1996).

CLAS Collaboration. Jefferson Lab (USA).

25. CLAS Collaboration (K.S. Egiyan *et al.*), “Experimental Study of Exclusive ${}^2H(e, e'p)n$ Reaction Mechanisms at High Q^2 ”, Phys. Rev. Lett. **98**, 262502 (2007).
26. CLAS Collaboration (I. Hleiqawi *et al.*), “Cross section for the $\gamma p \rightarrow K^{*0}\Sigma^+$ reaction at $E_\gamma = 1.7\text{--}3.0$ GeV”, Phys. Rev. C **75**, 042201 (2007).
27. CLAS Collaboration (P. Ambrozewicz *et al.*), “Separated structure functions for the exclusive electroproduction of $K^+\Lambda$ and $K^+\Sigma^0$ final states”, Phys. Rev. C **75**, 045203 (2007).
28. CLAS Collaboration (R.K. Bradford *et al.*), “First measurement of beam-recoil observables C_x and C_z in hyperon photoproduction”, Phys. Rev. C **75**, 035205 (2007).
29. CLAS Collaboration (P.E. Bosted *et al.*), “Quark-hadron duality in spin structure functions g_1^p and g_1^d ”, Phys. Rev. C **75**, 035203 (2007).
30. CLAS Collaboration (M. Ungaro *et al.*), “Measurement of the $N \rightarrow \Delta^+(1232)$ Transition at High-Momentum Transfer by π^0 Electroproduction”, Phys. Rev. Lett. **97**, 112003 (2006).
31. CLAS Collaboration (V. Kubarovsky *et al.*), “Search for Θ^{++} Pentaquarks in the Exclusive Reaction $\gamma p \rightarrow K^+K^-p$ ”, Phys. Rev. Lett. **97**, 102001 (2006).
32. CLAS Collaboration (S. Chen *et al.*), “Measurement of Deeply Virtual Compton Scattering with a Polarized-Proton Target”, Phys. Rev. Lett. **97**, 072002 (2006).
33. CLAS Collaboration (R. De Vita *et al.*), “Search for the Θ^+ pentaquark in the reactions $\gamma p \rightarrow \bar{K}^0K^+n$ and $\gamma p \rightarrow \bar{K}^0K^0p$ ”, Phys. Rev. D **74**, 032001 (2006).
34. CLAS Collaboration (S. Niccolai *et al.*), “Search for the Θ^+ Pentaquark in the $\gamma d \rightarrow \Lambda^0nK^+$ Reaction Measured with the CLAS Spectrometer”, Phys. Rev. Lett. **97**, 032001 (2006).
35. CLAS Collaboration (B. McKinnon *et al.*), “Search for the Θ^+ Pentaquark in the $\gamma d \rightarrow pK^-K^+n$ ”, Phys. Rev. Lett. **96**, 212001 (2006).
36. CLAS Collaboration (R. Osipenko *et al.*), “Measurement of the deuteron structure function F_2 in the resonance region and evaluation of its moments”, Phys. Rev. C **73**, 045205 (2006).
37. CLAS Collaboration (A.V. Klimenko *et al.*), “Electron scattering from high-momentum neutrons in deuterium”, Phys. Rev. C **73**, 035212 (2006).
38. CLAS Collaboration (K.S. Egiyan *et al.*), “Measurement of Two- and Three-Nucleon Short-Range Correlation Probabilities in Nuclei”, Phys. Rev. Lett. **96**, 082501 (2006).
39. CLAS Collaboration (R. Bradford *et al.*), “Differential cross sections for $\gamma + p \rightarrow K^+ + Y$ for Λ and Σ^0 hyperons”, Phys. Rev. C **73**, 035202 (2006).
40. CLAS Collaboration (M. Dugger *et al.*), “ η' Photoproduction on the Proton for Photon Energies from 1.527 to 2.227 GeV”, Phys. Rev. Lett. **96**, 062001 (2006).

41. CLAS Collaboration (M. Battaglieri *et al.*), “Search for $\Theta^+(1540)$ Pentaquark in High-Statistics Measurement of $\gamma p \rightarrow \bar{K}^0 K^+ n$ at CLAS”, *Phys. Rev. Lett.* **96**, 042001 (2006).
42. CLAS Collaboration (H. Egiyan *et al.*), “Single π^+ electroproduction on the proton in the first and second resonance regions at $0.25 \text{ GeV}^2 < Q^2 < 0.65 \text{ GeV}^2$ ”, *Phys. Rev. C* **73**, 025204 (2006).
43. CLAS Collaboration (K. Joo *et al.*), “Measurement of the polarized structure function $\sigma_{LT'}$ for pion electroproduction in the Roper-resonance region”, *Phys. Rev. C* **72**, 058202 (2005).
44. CLAS Collaboration (S. Strauch *et al.*), “Beam-Helicity Asymmetries in Double-Charged-Pion Photoproduction on the Proton”, *Phys. Rev. Lett.* **95**, 162003 (2005).
45. CLAS Collaboration (J.W. Price *et al.*), “Exclusive photoproduction of the cascade (Ξ) hyperons”, *Phys. Rev. C* **71**, 058201 (2005).
46. CLAS Collaboration (S. Taylor *et al.*), “Radiative decays of the $\Sigma^0(1385)$ and $\Lambda(1520)$ hyperons”, *Phys. Rev. C* **71**, 054609 (2005).
47. CLAS Collaboration (D. Protopopescu *et al.*), “Survey of $A_{LT'}$ asymmetries in semi-exclusive electron scattering on ${}^4\text{He}$ and ${}^{12}\text{C}$ ”, *Nucl. Phys. A* **748**, 357 (2005).
48. CLAS Collaboration (C. Hadjidakis *et al.*), “Exclusive ρ^0 meson electroproduction from hydrogen at CLAS”, *Phys. Lett. B* **605**, 256 (2005).
49. CLAS Collaboration (P. Rossi *et al.*), “Onset of Asymptotic Scaling in Deuteron Photodisintegration”, *Phys. Rev. Lett.* **94**, 012301 (2005).
50. CLAS Collaboration (A.V. Stavinisky *et al.*), “Proton Source Size Measurements in the $eA \rightarrow e'ppX$ Reaction”, *Phys. Rev. Lett.* **93**, 192301 (2004).
51. CLAS Collaboration (S. Niccolai *et al.*), “Complete measurement of three-body photodisintegration of ${}^3\text{He}$ for photon energies between 0.35 and 1.55 GeV”, *Phys. Rev. C* **70**, 064003 (2004).
52. CLAS Collaboration (K. Joo *et al.*), “Measurement of the polarized structure function $\sigma_{LT'}$ for $p(\vec{e}, e'p^+)n$ in the $\Delta(1232)$ resonance region”, *Phys. Rev. C* **70**, 042201(R) (2004).
53. CLAS Collaboration (M. Mirazita *et al.*), “Complete angular distribution measurements of two-body deuteron photodisintegration between 0.5 and 3 GeV”, *Phys. Rev. C* **70**, 014005 (2004).
54. CLAS Collaboration (H. Avakian *et al.*), “Measurement of beam-spin asymmetries for π^+ electroproduction above the baryon resonance region”, *Phys. Rev. D* **69**, 112004 (2004).
55. CLAS Collaboration (K. McCormick *et al.*), “Tensor polarization of the ϕ meson photoproduced at high t ”, *Phys. Rev. C* **69**, 032203(R) (2004).
56. CLAS Collaboration (R.A. Niyazov *et al.*), “Two-Nucleon Momentum Distributions Measured in ${}^3\text{He}(e, e'pp)n$ ”, *Phys. Rev. Lett.* **92**, 052303 (2004).
57. CLAS Collaboration (V. Kubarovskiy *et al.*), “Observation of an Exotic Baryon with $S = +1$ in Photoproduction from the Proton”, *Phys. Rev. Lett.* **92**, 032001 (2004).
58. CLAS Collaboration (S. Stepanyan *et al.*), “Observation of an Exotic $S = +1$ Baryon in Exclusive Photoproduction from the Deuteron”, *Phys. Rev. Lett.* **91**, 252001 (2003).
59. CLAS Collaboration (K. Joo *et al.*), “Measurement of the polarized structure function $\sigma_{LT'}$ for $p(\vec{e}, e'p)\pi^0$ in the $\Delta(1232)$ resonance region”, *Phys. Rev. C* **68**, 032201(R) (2003).
60. CLAS Collaboration (K.Sh. Egiyan *et al.*), “Observation of nuclear scaling in the $A(e, e')$ reaction at $x_B \geq 1$ ”, *Phys. Rev. C* **68**, 014313 (2003).

61. CLAS Collaboration (D.S. Carman *et al.*), “First Measurement of Transferred Polarization in the Exclusive $\bar{e}p \rightarrow e'K^+\vec{\Lambda}$ Reaction”, *Phys. Rev. Lett.* **90**, 131804 (2003).

2 Publications of Invited and Contributed Talks

1. O. Dzyubak, C. Djalali, S. Strauch and D. Tedeschi, “Magnet and beam studies for the JLab Hall-B Frozen Spin Polarized Target”, to be published in a book from World Scientific, *Proc. XI-th International Workshop on Polarized Sources and Targets, November 14-17, 2005, Tokyo, JAPAN*.
2. C.D. Keith, M.L. Seely, O. Dzyubak, “Design of a Frozen Spin Target for CLAS”, **GDH-2004**, Proceedings of the Third International Symposium on the Gerasimov-Drell-Hearn Sum Rule and its Extensions, June 2-5, 2004, p.201-205.
3. C. Djalali, O. Dzyubak, and D. Tedeschi, “Studies of dipole magnets for transversal holding magnetic field for the JLab Hall-B Frozen Spin Polarized Target”, 9th Inter. Workshop on Polarized Solid Targets & Techniques, October 27 - 29, 2003, Physikzentrum of Bad Honnef, Germany.
4. C. Djalali, O. Dzyubak, and D. J. Tedeschi, “Magnetic Field Studies for the JLab Hall-B Frozen Spin Target”, *Polarized Sources & Targets (PST-2003)*, September 22-26, 2003, Novosibirsk, Russia.
5. O. Dzyubak, “Frozen Polarized Target for JLAB photon experiments”, American Physical Society Meetings, April 5-8, 2003, Philadelphia, Pennsylvania.
6. N. Recalde, O. Dzyubak, C. Keith, and M. Seely, “Holding Magnet System for JLAB Hall-B Frozen Polarized Target”, American Physical Society Meetings, April 5-8, 2003, Philadelphia, Pennsylvania.
7. N. Recalde, O. Dzyubak, C. Keith, and M. Seely, “Prototypes of Holding Magnet System”, South Carolina Academy of Science, 76th Annual Meeting, March 20-21, 2003, Clemson, South Carolina.
8. O. Dzyubak, “Frozen Polarized Target for JLAB photon experiments”, South Carolina Academy of Science, 76th Annual Meeting, March 20-21, 2003, Clemson, South Carolina.
9. V.P. Berezovoj, Yu.L. Bolotin, O.P. Dzyubak, V. V. Yanovsky, and A.V. Zhiglo. “Stochastic Resonance in a Periodically Modulated Dissipative Nuclear Dynamics”, The 20th Anniversary of Dynamics Days (Dynamics Days 2001), January 3-6, 2001, Chapel Hill, NC, USA.
<http://www.phy.duke.edu/DDays2001/>
10. A. A. Belyaev *et al.*, “Millimeter magnetic spectroscopy of paramagnetic complexes **Cr(V)**”, MSMW’2001 Symposium Proceedings, Kharkov, Ukraine, June 4-9, 2001, p.826-828.
11. Nucleon-Nucleon Collaboration (J. Ball *et al.*), “Proton-proton data measured by the nucleon-nucleon collaboration at Saturne-II”, Czech Technical University CTU Reports, **4(1)**, (2000) p.1-247.
12. Nucleon-Nucleon Collaboration (Ch. Allgower *et al.*), “Programme nucleon-nucleon a Saturne II, Partie 3, E-225”, *Nouvelles de Saturne* bf21, CEA, IN2P3, Saclay (Nov. 1997) p.41-51.
13. Nucleon-Nucleon Collaboration (G. Durand, A.P. Dzyubak, B. Benda, J. Ball, Yu. Usov, and Z. Janout), “The optimal conditions of the *LiH* and *LiD* preparation as a target material”, 12th Int. Symp. on High Energy Spin Physics, Vrije Universiteit Amsterdam, The Netherlands, 10-14 Sept. 1996, p.251.
14. Movable Polarized Target Collaboration (N.G. Anischenko *et al.*), “A new movable polarized target at Dubna”, *AIP Conf. Proc.* **343**, 572 (1995).
15. A. A. Belyaev *et al.*, “Dynamic cooling appearance in irradiated ammonia”, 8th Intern. Workshop on Polarized Target Materials & Techniques (PTWS96), May 27-29, 1996, TRIUMF, Vancouver, Canada.

16. A.A. Belyaev *et al.*, “A cryostat for samples irradiations in liquid argon”, 9-th Intern. Symp. on High Spin Energy Physics. Held at Bonn, FRG, (6-15 Sep, 1990), Conf. Proc. **v.2**, 257 (1990).
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4 Recent Invited Talks at Conferences and Meetings (2002–2005)

1. O. Dzyubak, C. Djalali, S. Strauch and D. Tedeschi, “Magnet and beam studies for the Jlab Hall-B Frozen Spin Polarized Target”, *XI-th International Workshop on Polarized Sources and Targets*, November 14-17, 2005, the University of Tokyo, Tokyo, Japan.
2. A. Belyaev, O. Dzyubak, O. Lukhanin, “Simulations of Q-meter for precise measurements of proton polarization for the JLAB Frozen Spin Target”, *FROST Working Group at CLAS Collaboration Hall B Meeting*, November 3-5, 2005, Newport News, VA, USA.
3. A. Belyaev, O. Dzyubak, O. Lukhanin, “Polarized Target technologies developed at National Scientific Center of Ukraine (KIPT, Kharkov) and their possible applications for the FROST project at JLAB Hall-B”, *FROST Working Group at CLAS Collaboration Hall B Meeting*, November 3-5, 2005, Newport News, VA, USA.
4. O. Dzyubak, C. Djalali, D. Tedeschi, “Medical applications of polarization techniques developed for Nuclear and Particle Physics”, South Carolina Academy of Science, *77th Annual Meeting*, March 15-16, 2005, Rock Hill, South Carolina.
5. O. Dzyubak, S. Dzyubak, “Low level measurements of radioactive residuals as spin-offs from High Energy and Particle Physics to the Medicine and Nutrition Quality Control Service”, South Carolina Academy of Science, *77th Annual Meeting*, March 15-16, 2005, Rock Hill, South Carolina.
6. O. Dzyubak, “GEANT simulation of beam heat deposition in Hall-B Frozen Spin Polarized Target”, *Hadron Spectroscopy Group at CLAS Collaboration Hall B Meeting*, December 4, 2004, Newport News, VA, USA.
7. O. Dzyubak, “Short holding solenoid for Hall-B Frozen Spin Target”, *Hadron Spectroscopy Group at CLAS Collaboration Hall B Meeting*, October 15, 2004, Newport News, VA, USA.
8. O. Dzyubak, “Precise field map measurements for Hall-B Frozen Spin Target Polarizing Magnet”, *Hadron Spectroscopy Group at CLAS Collaboration Hall B Meeting*, June 20, 2004, Newport News, VA, USA.
9. O. Dzyubak, “Hall-B polarizing magnet field measurements with high precision”, *Jefferson Lab Hall-B Staff Meetings*, May 10, 2004, Newport News, VA, USA.
10. O. Dzyubak, “0.5 Tesla internal holding magnet system for JLAB Hall-B Frozen Spin Target”, *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, February 7, 2004, Newport News, VA, USA.
11. O. Dzyubak, “Forces acting on conductors of 0.3 Tesla holding magnet system in self-induced magnetic field”, *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, November 14, 2003, Newport News, VA, USA.

12. O. Dzyubak, "Force Calculations Update", *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, September 13, 2003, Newport News, VA, USA.
13. O. Dzyubak, "Investigation of a series of dipole magnets for transversal holding magnetic field for the Jlab Hall-B Frozen Spin Polarized Target", *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, June 30, 2003, Newport News, VA, USA.
14. O. Dzyubak, "Results of magnetic field measurements of the first prototypes of the holding solenoid and bedstead", *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, December 14, 2002, Newport News, VA, USA.
15. O. Dzyubak, "Primary results of magnet field measurements of the first prototypes of the holding solenoid and bedstead", *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, November 16, 2002, Newport News, VA, USA.
16. O. Dzyubak, "Notes about Holding Magnet System for the Hall-B Frozen Spin Polarized Target", *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, November 16, 2002, Newport News, VA, USA.
17. O. Dzyubak, "OPERA(TOSCA) Holding Solenoid calculations for Hall-B Frozen Spin Polarized Target", *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, October 18, 2002, Newport News, VA, USA.
18. O. Dzyubak, "Frozen spin mode Polarized Target for Hall-B", *Real Photon Working Group at CLAS Collaboration Hall B Meeting*, August 9, 2002, Newport News, VA, USA.