

# Kirill FILIMONOV

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## EDUCATION

### Ph.D., December 1998

Department of Physics, McGill University, Montreal, Canada  
Dissertation entitled "Elliptic Flow in Au+Au Collisions at 11.5 AGeV/c."

### M.Sc., June 1993

Department of Experimental Nuclear Physics, Moscow Engineering Physics Institute, Russia  
Dissertation entitled "Polarization of Hyperons in Hadron-Hadron and Hadron-Nucleus Interactions at Intermediate Energies."

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## EMPLOYMENT AND RESEARCH EXPERIENCE

### Associate Research Physicist

Jul 2010 - present

### Assistant Research Physicist

Mar 2005 – Jun 2010

Department of Physics, University of California, Berkeley, USA

Currently working on the IceCube project, a one-cubic-kilometer high-energy neutrino observatory located at the South Pole. IceCube searches for neutrinos from the most violent astrophysical sources, like exploding stars, gamma ray bursts, and cataclysmic phenomena involving black holes and neutron stars.

Physics topics: search for neutrinos from GRBs and core-collapse supernovae, detection of neutrino-induced cascades, search for Lorentz-invariance violation using astrophysical neutrinos

- Monitoring lead
  - Publication Committee member
  - Detector Operations Coordination Committee member
  - Field work at the South Pole in 2005/06, 08/09, 09/10, 10/11 seasons.
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### Physicist Postdoctoral Fellow

Mar 2001 – Feb 2005

Nuclear Science Division, Lawrence Berkeley National Lab, USA

Member of the STAR collaboration at the Relativistic Heavy-Ion Collider (RHIC), Brookhaven National Laboratory. STAR is dedicated to the search for signatures of quark-gluon plasma (QGP) formation and investigation of the behavior of strongly interacting matter at high energy density.

Main physics topic: High  $p_T$  hadrons and jets

The most significant result from RHIC is the discovery of jet quenching in dense matter created in heavy-ion collisions. I led crucial aspects of the jet tomographic studies elucidating properties of matter at high energy density, resulting in observation of new phenomena at high  $p_T$ : strong suppression of inclusive hadron spectra (3 PRL's), large azimuthal anisotropy (PRL), and variation of the back-to-back dijet suppression with density and geometry (2 PRL's).

- Convenor of RHIC II Science high  $p_T$  physics working group
- Convenor of STAR high  $p_T$  physics working group
- Shift crew leader and detector operator during data taking
- Referee for Physical Review Letters and Physical Review C

**Postdoctoral Research Associate****Jan 1999 - Feb 2001**

Physikalisches Institut der Universität Heidelberg, Germany

Worked on the CERES/NA45 experiment at the Super Proton Synchrotron (SPS), European Organization for Nuclear Research (CERN). CERES was dedicated to the study of low-mass electron pair production in hadron and nuclear collisions.

Main physics topic: Low-mass electron pair production

Led data analysis resulting in the observation of enhanced production of low-mass electron-positron pairs in Pb-Au collisions at 40A GeV (PRL). The results may be linked to chiral symmetry restoration and support the notion that the in-medium modifications of  $\rho$ -mesons are driven more by baryon density than by temperature.

Software projects: Microscopic simulation of the CERES Time Projection Chamber. Implementation of data production chain and ROOT framework for data storage and subsequent analysis.

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**Graduate Research Assistant****Sep 1993 - Dec 1998**

Department of Physics, McGill University, Montreal, Canada

- Carl Reinhardt McGill Major Fellowship 1995-1997

Worked on the E877 experiment at the Alternating Gradient Synchrotron (AGS), Brookhaven National Laboratory. E877 was dedicated to the study of relativistic nuclear collisions with heavy beams. Also worked on R&D and Monte-Carlo simulations for the PHENIX experiment at RHIC.

Main physics topic: Collective flow in Au+Au collisions at 11A GeV

Directed and elliptic flow of protons, antiprotons, deuterons, pions, and kaons. Developed the method to decouple the effects of directed and elliptic flow. First observation of a strong directed anti-flow of antiprotons in Au+Au collisions at the AGS (PLB). Gave a plenary E877 talk at Quark Matter'99.

Hardware projects: Research and development of the pad chambers for the PHENIX experiment at RHIC. Design, construction, and testing of the pad chamber prototypes with chevron and pixel readout (2 NIM's).

Software projects: Implementation of pad chamber (MWPC) detectors in the PHENIX experiment (GEANT); Microscopic simulation of PHENIX pad chambers and development of the cluster reconstruction algorithms.

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**Research Assistant/Scientist****Sep 1989 - Aug 1993**

Department of Exp. Nuclear Physics, Moscow Engineering Physics Institute, Russia

Worked on the hadron-hadron and hadron-nucleus experiments at the ITEP Proton Synchrotron.

Main physics topic: Spin effects via measurements of transverse polarization of  $\Lambda$  and  $\Sigma^+$  hyperons produced in  $\pi^+ p$  interactions at 3.6–4.2 GeV/c. Study of the effect of resonance states  $K^*(892)$ ,  $\Sigma^*(1385)$  on  $\Lambda$  and  $\Sigma^+$  polarization (Phys.Lett.B, JETP Lett., Sov.J.Nucl.Phys).

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**TEACHING EXPERIENCE**

McGill University, Teaching Assistant, 1993-1998

General Physics Laboratory, Tutoring and Assignment Marking

### **Publications submitted to refereed journals:**

SEARCH FOR GALACTIC PEV GAMMA RAYS WITH THE ICECUBE NEUTRINO OBSERVATORY.  
IceCube Collaboration (M.G. Aartsen *et al.*). Submitted to Phys.Rev.D., 2012  
E-PRINT: ARXIV:1210.7992 [ASTRO-PH.HE]

OBSERVATION OF COSMIC RAY ANISOTROPY WITH THE ICETOP AIR SHOWER ARRAY.  
IceCube Collaboration (M.G. Aartsen *et al.*). Submitted to ApJ, 2012  
E-PRINT: ARXIV:1210.5278 [ASTRO-PH.HE]

SEARCH FOR NEUTRINOS FROM ANNIHILATING DARK MATTER IN THE DIRECTION OF THE GALACTIC CENTER WITH THE 40-STRING ICECUBE NEUTRINO OBSERVATORY.  
IceCube Collaboration (R. Abbasi *et al.*). Submitted to Phys.Rev.D., 2012  
E-PRINT: ARXIV:1210.3557 [HEP-EX]

SEARCH FOR RELATIVISTIC MAGNETIC MONOPOLES WITH ICECUBE.  
IceCube Collaboration (R. Abbasi *et al.*). Submitted to Phys.Rev.D., 2012  
E-PRINT: ARXIV:1208.4861 [ASTRO-PH.HE]

LATERAL DISTRIBUTION OF MUONS IN ICECUBE COSMIC RAY EVENTS.  
IceCube Collaboration (R. Abbasi *et al.*). Submitted to Phys.Rev.D., 2012  
E-PRINT: ARXIV:1208.2979 [ASTRO-PH.HE]

ALL-PARTICLE COSMIC RAY ENERGY SPECTRUM MEASURED WITH 26 ICETOP STATIONS.  
IceCube Collaboration (R. Abbasi *et al.*). Submitted to Astropart.Phys., 2012  
e-Print: arXiv:1202.3039 [astro-ph.HE]

### **Publications in refereed journals:**

USE OF EVENT-LEVEL NEUTRINO TELESCOPE DATA IN GLOBAL FITS FOR THEORIES OF NEW PHYSICS.  
IceCube Collaboration (R. Abbasi *et al.*). To appear in Journal of Cosmology and Astroparticle Physics, 2012.  
E-PRINT: ARXIV:1207.0810 [HEP-PH]

COSMIC RAY COMPOSITION AND ENERGY SPECTRUM FROM 1-30 PEV USING THE 40-STRING CONFIGURATION OF ICETOP AND ICECUBE.  
IceCube Collaboration (R. Abbasi *et al.*). To appear in Astropart.Phys., 2012.  
E-PRINT: ARXIV:1207.3455 [ASTRO-PH.HE]

SEARCHES FOR HIGH-ENERGY NEUTRINO EMISSION IN THE GALAXY WITH THE COMBINED ICECUBE-AMANDA DETECTOR.  
IceCube Collaboration (R. Abbasi *et al.*). To appear in Astrophys.J. 2012.  
E-PRINT: ARXIV:1210.3273 [ASTRO-PH.HE]

A SEARCH FOR ULTRAHIGH ENERGY TAU NEUTRINOS WITH ICECUBE.  
IceCube Collaboration (R. Abbasi *et al.*). Phys. Rev. D86:022005, 2012.

ELLIPTIC FLOW OF CHARGED PIONS, PROTONS AND STRANGE PARTICLES EMITTED IN PB+AU COLLISIONS AT TOP SPS ENERGY.  
CERES Collaboration (D. Adamova *et al.*), Nucl.Phys.A:894,41-73,2012.

AN ABSENCE OF NEUTRINOS ASSOCIATED WITH COSMIC-RAY ACCELERATION IN  $\gamma$ -RAY BURSTS.  
IceCube Collaboration (R. Abbasi *et al.*). Nature 484:351, 2012.

SEARCHING FOR SOFT RELATIVISTIC JETS IN CORE-COLLAPSE SUPERNOVAE WITH THE ICECUBE OPTICAL FOLLOW-UP PROGRAM.  
IceCube and ROTSE Collaborations (R. Abbasi *et al.*). Astron.Astrophys.539:A60, 2012.

NEUTRINO ANALYSIS OF THE SEPTEMBER 2010 CRAB NEBULA FLARE AND TIME-INDEPENDENT CONSTRAINTS ON NEUTRINO EMISSION FROM THE CRAB USING ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). *Astrophys.J.*745:45, 2012.

THE DESIGN AND PERFORMANCE OF ICECUBE DEEPCORE.

IceCube Collaboration (R. Abbasi *et al.*). *Astropart.Phys.*35:615, 2012.

SEARCHES FOR PERIODIC NEUTRINO EMISSION FROM BINARY SYSTEMS WITH 22 AND 40 STRINGS OF ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). *Astrophys.J.*748:118, 2012.

ICECUBE SENSITIVITY FOR LOW-ENERGY NEUTRINOS FROM NEARBY SUPERNOVAE.

IceCube Collaboration (R. Abbasi *et al.*). *Astron.Astrophys.*535:A109, 2011.

TIME-DEPENDENT SEARCHES FOR POINT SOURCES OF NEUTRINOS WITH THE 40-STRING AND 22-STRING CONFIGURATIONS OF ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). *Astrophys.J.*744:1, 2012.

MULTIYEAR SEARCH FOR DARK MATTER ANNIHILATIONS IN THE SUN WITH THE AMANDA-II AND ICECUBE DETECTORS.

IceCube Collaboration (R. Abbasi *et al.*). *Phys.Rev.D.*85:042002, 2012.

BACKGROUND STUDIES FOR ACOUSTIC NEUTRINO DETECTION AT THE SOUTH POLE.

IceCube Collaboration (R. Abbasi *et al.*). *Astropart.Phys.*35:312-324,2012.

AN OBSERVATION OF ANISOTROPY IN THE GALACTIC COSMIC RAYS AT 400 TEV WITH ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). *Astrophys.J.*746:33,2012.

A SEARCH FOR A DIFFUSE FLUX OF ASTROPHYSICAL MUON NEUTRINOS WITH THE ICECUBE 40-STRING DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). *Phys.Rev.D.*84:082001, 2011.

OBSERVATION OF ANISOTROPIES IN THE ARRIVAL DIRECTIONS OF GALACTIC COSMIC RAYS AT MULTIPLE ANGULAR SCALES WITH ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). *Astrophys.J.*740:16, 2011.

FIRST SEARCH FOR ATMOSPHERIC AND EXTRATERRESTRIAL NEUTRINO-INDUCED CASCADES WITH THE ICECUBE DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). *Phys.Rev.D*84:072001, 2011.

SEARCH FOR DARK MATTER FROM THE GALACTIC HALO WITH THE ICECUBE NEUTRINO OBSERVATORY.

IceCube Collaboration (R. Abbasi *et al.*). *Phys.Rev.D*84:022004, 2011.

CONSTRAINTS ON THE EXTREMELY-HIGH ENERGY COSMIC NEUTRINO FLUX WITH THE ICECUBE 2008-2009 DATA.

IceCube Collaboration (R. Abbasi *et al.*). *Phys. Rev. D*83:092003, 2011.

CONSTRAINTS ON HIGH-ENERGY NEUTRINO EMISSION FROM SN 2008D.

IceCube Collaboration (R. Abbasi *et al.*). *Astron.Astrophys.*527:A28,2011.

LIMITS ON NEUTRINO EMISSION FROM GAMMA-RAY BURSTS WITH THE 40 STRING ICECUBE DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). *Phys.Rev.Lett.*106:141101,2011.

TIME-INTEGRATED SEARCHES FOR POINT-LIKE SOURCES OF NEUTRINOS WITH THE 40-STRING ICECUBE DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). *Astrophys.J.*732:18,2011.

MEASUREMENT OF THE ATMOSPHERIC NEUTRINO ENERGY SPECTRUM FROM 100 GEV TO 400 TEV WITH ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.D83:012001,2011.

SEARCH FOR A LORENTZ-VIOLATING SIDEREAL SIGNAL WITH ATMOSPHERIC NEUTRINOS IN ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.D82:112003,2010.

SEARCH FOR RELATIVISTIC MAGNETIC MONOPOLES WITH THE AMANDA-II NEUTRINO TELESCOPE.

IceCube Collaboration (R. Abbasi *et al.*). Eur.Phys.J.C69:361-378,2010

SEARCH FOR NEUTRINO-INDUCED CASCADES WITH FIVE YEARS OF AMANDA DATA.

IceCube Collaboration (R. Abbasi *et al.*). Astropart.Phys.34:420-430,2010.

MEASUREMENT OF ACOUSTIC ATTENUATION IN SOUTH POLE ICE.

IceCube Collaboration (R. Abbasi *et al.*). Astropart.Phys.34:382-393,2010.

THE FIRST SEARCH FOR EXTREMELY-HIGH ENERGY COSMOGENIC NEUTRINOS WITH THE ICECUBE NEUTRINO OBSERVATORY.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.D82:073002,2010.

MEASUREMENT OF THE ANISOTROPY OF COSMIC RAY ARRIVAL DIRECTIONS WITH ICECUBE.

IceCube Collaboration (R. Abbasi *et al.*). Astrophys.J.718:L194,2010

THE ENERGY SPECTRUM OF ATMOSPHERIC NEUTRINOS BETWEEN 2 AND 200 TEV WITH THE AMANDA-II DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). Astropart.Phys.34:48-58,2010.

LIMITS ON A MUON FLUX FROM KALUZA-KLEIN DARK MATTER ANNIHILATIONS IN THE SUN FROM THE ICECUBE 22-STRING DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.D81:057101,2010.

MEASUREMENT OF SOUND SPEED VS. DEPTH IN SOUTH POLE ICE FOR NEUTRINO ASTRONOMY.

By IceCube Collaboration (R. Abbasi *et al.*), Astropart.Phys.33:277-286,2010.

SEARCH FOR MUON NEUTRINOS FROM GAMMA-RAY BURSTS WITH THE ICECUBE NEUTRINO TELESCOPE.

IceCube Collaboration (R. Abbasi *et al.*). Astrophys.J.710:346-359,2010.

EXTENDING THE SEARCH FOR NEUTRINO POINT SOURCES WITH ICECUBE ABOVE THE HORIZON.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.Lett.103:221102,2009

SEARCH FOR HIGH-ENERGY MUON NEUTRINOS FROM THE 'NAKED-EYE' GRB 080319B WITH THE ICECUBE NEUTRINO TELESCOPE.

IceCube Collaboration (R. Abbasi *et al.*). Astrophys.J.701:1721-1731,2009.

FIRST NEUTRINO POINT-SOURCE RESULTS FROM THE 22-STRING ICECUBE DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). Astrophys.J.Lett.701, L47,2009.

DETERMINATION OF THE ATMOSPHERIC NEUTRINO FLUX AND SEARCHES FOR NEW PHYSICS WITH AMANDA-II.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.D79:102005,2009.

LIMITS ON A MUON FLUX FROM NEUTRALINO ANNIHILATIONS IN THE SUN WITH THE ICECUBE 22-STRING DETECTOR.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.Lett.102:201302,2009.

SEARCH FOR POINT SOURCES OF HIGH ENERGY NEUTRINOS WITH FINAL DATA FROM AMANDA-II.

IceCube Collaboration (R. Abbasi *et al.*). Phys.Rev.D79:062001, 2009.

MODIFICATION OF JET-LIKE CORRELATIONS IN PB-AU COLLISIONS AT 158A-GEV/C.  
CERES Collaboration (D. Adamova *et al.*) Phys.Lett.B678:259-263,2009.

SOLAR ENERGETIC PARTICLE SPECTRUM ON 13 DECEMBER 2006 DETERMINED BY ICETOP.  
IceCube Collaboration (R. Abbasi *et al.*). Astrophys.J.Lett.689, L65, 2008.

AZIMUTHAL DEPENDENCE OF PION SOURCE RADII IN PB+AU COLLISIONS AT 158 GEV/C PER NUCLEON.  
CERES Collaboration (D. Adamova *et al.*). Phys.Rev.C78:064901,2008.

MODIFICATION OF THE  $\rho$ -MESON DETECTED BY LOW-MASS ELECTRON-POSITRON PAIRS IN CENTRAL  
PB-AU COLLISIONS AT 158 A GEV/C.  
CERES/NA45 Collaboration (D. Adamova *et al.*). Phys.Lett B666:425-429,2008.

SCALE-DEPENDENCE OF TRANSVERSE MOMENTUM CORRELATIONS IN PB-AU COLLISIONS AT 158A  
GEV/C.  
CERES/NA45 Collaboration (D. Adamova *et al.*). Nucl.Phys.A811:179-196, 2008.

SEARCH FOR ULTRA HIGH-ENERGY NEUTRINOS WITH AMANDA-II.  
IceCube Collaboration (M. Ackermann *et al.*). Astrophysical J. 675:1014–1024, 2008.

THE SEARCH FOR MUON NEUTRINOS FROM NORTHERN HEMISPHERE GAMMA-RAY BURSTS WITH  
AMANDA.  
IceCube Collaboration and the IPN Collaboration (A. Achterberg *et al.*). Astrophysical J.674:357-370,2008.

RAPIDITY AND SPECIES DEPENDENCE OF PARTICLE PRODUCTION AT LARGE TRANSVERSE  
MOMENTUM FOR D+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.  
STAR Collaboration (B.I. Abelev *et al.*). Phys.Rev.C76:054903,2007.

MULTI-YEAR SEARCH FOR A DIFFUSE FLUX OF MUON NEUTRINOS WITH AMANDA-II.  
IceCube Collaboration (A. Achterberg *et al.*). Phys.Rev. D76:042008,2007.

DETECTION OF ATMOSPHERIC MUON NEUTRINOS WITH THE ICECUBE 9-STRING DETECTOR.  
IceCube Collaboration (A. Achterberg *et al.*). Phys.Rev. D76:027101,2007.

SEARCH FOR NEUTRINO-INDUCED CASCADES FROM GAMMA-RAY BURSTS WITH AMANDA.  
IceCube Collaboration (A. Achterberg *et al.*). Astrophysical J.664:397-410,2007.

STRANGE PARTICLE PRODUCTION IN P+P COLLISIONS AT  $\sqrt{s} = 200$  GEV.  
STAR Collaboration (B.I. Abelev *et al.*). Phys.Rev.C75:064901,2007.

FIVE YEARS OF SEARCHES FOR POINT SOURCES OF ASTROPHYSICAL NEUTRINOS WITH THE  
AMANDAI NEUTRINO TELESCOPE.  
IceCube Collaboration (A. Achterberg *et al.*). Phys.Rev.D75:102001,2007.

MASS, QUARK-NUMBER, AND  $\sqrt{s_{NN}}$  DEPENDENCE OF THE SECOND AND FOURTH FLOW HARMONICS  
IN ULTRA-RELATIVISTIC NUCLEUS-NUCLEUS COLLISIONS.  
STAR Collaboration (B.I. Abelev *et al.*). Phys.Rev.C75:054906,2007.

TWO-PARTICLE CORRELATIONS ON TRANSVERSE MOMENTUM AND MOMENTUM DISSIPATION IN AU-  
AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (J. Adams *et al.*). J.Phys.G:34 :799-816,2007.

$D\phi D\eta$  CORRELATIONS IN CENTRAL AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.C75:034901,2007.

LIMITS ON THE HIGH-ENERGY GAMMA AND NEUTRINO FLUXES FROM THE SGR 1806-20 GIANT FLARE  
OF DECEMBER 27TH, 2004 WITH THE AMANDA-II DETECTOR.

IceCube Collaboration (A. Achterberg *et al.*). Phys.Rev.Lett.97:221101,2006.

ON THE SELECTION OF AGN NEUTRINO SOURCE CANDIDATES FOR A SOURCE STACKING ANALYSIS WITH NEUTRINO TELESCOPES.

IceCube Collaboration (A. Achterberg *et al.*). Astropart.Phys.26:282-300,2006.

FIRST YEAR PERFORMANCE OF THE ICECUBE NEUTRINO TELESCOPE.

IceCube Collaboration (A. Achterberg *et al.*). Astropart.Phys.26:155-173,2006.

LIMITS ON THE MUON FLUX FROM NEUTRALINO ANNIHILATIONS AT THE CENTER OF THE EARTH WITH AMANDA.

IceCube Collaboration (A. Achterberg *et al.*). Astropart.Phys.26:129-139,2006.

SCALING PROPERTIES OF HYPERON PRODUCTION IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.98:062301,2007.

THE ENERGY DEPENDENCE OF  $P_T$  ANGULAR CORRELATIONS INFERRED FROM MEAN- $P_T$  FLUCTUATION SCALE DEPENDENCE IN HEAVY ION COLLISIONS AT THE SPS AND RHIC.

STAR Collaboration (J. Adams *et al.*). J.Phys.G34:451-465,2007.

PROTON-LAMBDA CORRELATIONS IN CENTRAL AU+AU COLLISIONS  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C74:064906,2006.

NEUTRAL KAON INTERFEROMETRY IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (B.I. Abelev *et al.*). Phys.Rev.C74:054902,2006.

DIRECT OBSERVATION OF DIJETS IN CENTRAL AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.97:162301,2006.

FORWARD NEUTRAL PION PRODUCTION IN P+P AND D+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.97:152302,2006.

STRANGE BARYON RESONANCE PRODUCTION IN  $\sqrt{s_{NN}} = 200$  GEV P+P AND AU+AU COLLISIONS.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.97:132301,2006.

MULTIPLICITY DEPENDENCE OF INCLUSIVE  $P_T$  SPECTRA FROM P+P COLLISIONS AT  $\sqrt{s} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.D74:032006, 2006.

TRANSVERSE-MOMENTUM  $P_T$  CORRELATIONS ON  $(\eta, \phi)$  FROM MEAN- $P_T$  FLUCTUATIONS IN AU-AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). J.Phys.G32:L37-L48,2006.

MINIJET DEFORMATION AND CHARGE-INDEPENDENT TWO-PARTICLE CORRELATIONS ON MOMENTUM SUBSPACE  $(\eta, \phi)$  IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C73:064907,2006.

IDENTIFIED HADRON SPECTRA AT LARGE TRANSVERSE MOMENTUM IN P+P AND D+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Lett.B637:161-169,2006.

LEPTONIC AND CHARGED KAON DECAY MODES OF THE PHI MESON MEASURED IN HEAVY-ION COLLISIONS AT THE CERN SPS.

CERES Collaboration (D. Adamova *et al.*). Phys.Rev.Lett.96:152301,2006.

HADRONIZATION GEOMETRY FROM NET-CHARGE ANGULAR CORRELATIONS ON MOMENTUM

SUBSPACE ( $\eta, \phi$ ) IN AU–AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Lett.B634:347,2006.

DIRECTED FLOW IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 62$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C73:034903,2006.

MULTIPLICITY AND PSEUDORAPIDITY DISTRIBUTIONS OF CHARGED PARTICLES AND PHOTONS AT FORWARD PSEUDORAPIDITY IN AU + AU COLLISIONS AT  $\sqrt{s_{NN}} = 62.4$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C73:034906,2006.

INCIDENT ENERGY DEPENDENCE OF  $P_T$  CORRELATIONS AT RHIC.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C72:044902,2005.

DISTRIBUTIONS OF CHARGED HADRONS ASSOCIATED WITH HIGH TRANSVERSE MOMENTUM PARTICLES IN PP AND AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.95:152301,2005.

MULTI-STRANGE BARYON ELLIPTIC FLOW IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.95:122301,2005.

MULTIPLICITY AND PSEUDORAPIDITY DISTRIBUTIONS OF PHOTONS IN AU + AU COLLISIONS AT  $\sqrt{s_{NN}} = 62.4$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.95:062301,2005.

AZIMUTHAL ANISOTROPY IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys. Rev. C72:014904,2005.

EVENT-WISE MEAN  $P_T$  FLUCTUATIONS IN AU-AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys. Rev. C71:064906,2005.

EXPERIMENTAL AND THEORETICAL CHALLENGES IN THE SEARCH FOR THE QUARK GLUON PLASMA: THE STAR COLLABORATION'S CRITICAL ASSESSMENT OF THE EVIDENCE FROM RHIC COLLISIONS.

STAR Collaboration (J. Adams *et al.*). Nucl. Phys. A757:102-183,2005.

K(892)\* RESONANCE PRODUCTION IN AU+AU AND P+P COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV AT STAR.

STAR Collaboration (J. Adams *et al.*). Phys. Rev. C71:064902,2005.

PION, KAON, PROTON AND ANTI-PROTON TRANSVERSE MOMENTUM DISTRIBUTIONS FROM P+P AND D+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Lett.B616:8,2005.

PION INTERFEROMETRY IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys. Rev.C71:044906,2005.

PHI MESON PRODUCTION IN AU+AU AND P+P COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Lett.B612:181,2005.

TRANSVERSE-MOMENTUM DEPENDENT MODIFICATION OF DYNAMIC TEXTURE IN CENTRAL AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C71:031901(R),2005.

OPEN CHARM YIELDS IN D+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.94:062301,2005.



AZIMUTHAL ANISOTROPY AND CORRELATIONS AT LARGE TRANSVERSE MOMENTA IN P+P AND AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.93:252301,2004.

PSEUDORAPIDITY ASYMMETRY AND CENTRALITY DEPENDENCE OF CHARGED HADRON SPECTRA IN D+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C70:064907,2004.

MEASUREMENTS OF TRANSVERSE ENERGY DISTRIBUTIONS IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C70:054907,2004.

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K. Filimonov, Acta Phys.Hung.A25:363-370,2006.

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K. Filimonov, J.Phys.G30:S919-S926,2004.

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STAR Collaboration (H. Caines *et al.*). J.Phys.G30:S61-S73,2004.

AZIMUTHAL ANISOTROPY OF CHARGED AND IDENTIFIED HIGH  $P_T$  HADRONS IN AU+AU COLLISIONS AT RHIC.  
STAR Collaboration (K. Filimonov *et al.*). Nucl.Phys.A715:737-740,2003.

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CERES Collaboration (J.P. Wessels *et al.*). Nucl.Phys.A715:262-271,2003.

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PHENIX Collaboration (D.P. Morrison *et al.*). Nucl.Phys.A638:565-570,1998

ANISOTROPIC FLOW OF IDENTIFIED PARTICLES IN AU+AU COLLISIONS AT AGS ENERGY.

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E877 Collaboration (D. Miskowiec *et al.*). Nucl.Phys.A610:227c-239c,1996

HADRON YIELDS AND SPECTRA IN AU + AU COLLISIONS AT THE AGS.

E877 Collaboration (R. Lacasse *et al.*). Nucl.Phys.A610:153c-164c,1996

## **Conference Proceedings Publications:**

ICECUBE - ASTROPHYSICS AND ASTROPARTICLE PHYSICS AT THE SOUTH POLE. Proceedings of 32nd International Cosmic Ray Conference (ICRC 2011), Beijing, China, 11-18 Aug 2011.  
IceCube Collaboration (R. Abbasi *et al.*). arXiv:1111.5188 [astro-ph.HE]

THE ICECUBE NEUTRINO OBSERVATORY I: POINT SOURCE SEARCHES. Proceedings of 32nd International Cosmic Ray Conference (ICRC 2011), Beijing, China, 11-18 Aug 2011.  
IceCube Collaboration (R. Abbasi *et al.*). arXiv:1111.2741 [astro-ph.HE]

THE ICECUBE NEUTRINO OBSERVATORY II: ALL SKY SEARCHES: ATMOSPHERIC, DIFFUSE AND EHE. Proceedings of 32nd International Cosmic Ray Conference (ICRC 2011), Beijing, China, 11-18 Aug 2011.  
IceCube Collaboration (R. Abbasi *et al.*). arXiv:1111.2736 [astro-ph.HE]

THE ICECUBE NEUTRINO OBSERVATORY III: COSMIC RAYS. Proceedings of 32nd International Cosmic Ray Conference (ICRC 2011), Beijing, China, 11-18 Aug 2011.  
IceCube Collaboration (R. Abbasi *et al.*). arXiv:1111.2735 [astro-ph.HE]

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FROM AMANDA TO ICECUBE: NEUTRINO ASTRONOMY AT THE SOUTH POLE.  
K. Filimonov for the IceCube Collaboration, Proceedings of the 9<sup>th</sup> Conference on the Intersections of Particle and Nuclear Physics (CIPANP 2006), Rio Grande, Puerto Rico, May 30-June 3, 2006.  
Published in AIP Conf. Proc. 870, 215 (2006).

MULTI-MESSENGER STUDIES WITH AMANDA/ICECUBE: OBSERVATIONS AND STRATEGIES.  
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IceCube Collaboration (A. Achterberg *et al.*), astro-ph/0509330.

AZIMUTHAL ANISOTROPY IN RELATIVISTIC NUCLEAR COLLISIONS AND A MODEL OF COMPOUND FLOW.

V.A. Okorokov and K. Filimonov, Proceedings of the VIIIth International Workshop "Relativistic nuclear physics: from hundreds MeV to TeV", Dubna, May 23-28, 2005. Published in \*Dubna, JINR, 2006, pp.165-170.

OVERVIEW OF RESULTS FROM THE STAR EXPERIMENT AT RHIC.

K. Filimonov for the STAR collaboration. Published in \*Moscow 2003, I. Ya. Pomeranchuk and physics at the turn of the century\* 58-71, hep-ex/0306056.

HIGH  $P_T$  HADRONS IN AU+AU COLLISIONS AT RHIC.

K. Filimonov. Published in \*Alushta 2002, Multiparticle dynamics\* 88-91, hep-ex/0212056.

LOW MASS LEPTON PAIR PRODUCTION IN PB-AU COLLISIONS AT 40 AGEV.

S. Damjanovic and K. Filimonov for the CERES/NA45 Collaboration. Published in \*Budapest 2001, High energy physics\* hep2001/250, nucl-ex/0111009.

NEW RESULTS ON PB - AU COLLISIONS AT 40 AGEV FROM THE CERES/NA45 EXPERIMENT.

K. Filimonov for the CERES/NA45 Collaboration. Published in \*Berkeley 2001, Nuclear physics in the 21st century\* 556-560, AIP Conf. Proc. 610, 556 (2002), nucl-ex/0109017.

ANISOTROPIC AZIMUTHAL DISTRIBUTIONS OF IDENTIFIED PARTICLES IN AU+AU COLLISIONS AT 11.5 AGEV/C.

K. Filimonov for the E877 Collaboration. Published in \*Chicago 1998, Particle distributions in hadronic and nuclear collisions\* 109-118.



## LIST OF SELECTED TALKS

### Invited talks:

#### RECENT RESULTS FROM ICECUBE.

8<sup>th</sup> topical conference on particle physics, astrophysics, and cosmology (Miami 2011), Ft. Lauderdale, Dec 15-21, 2011.

#### EXTREME ASTRONOMY: EYEING THE COSMOS THROUGH A CUBIC KILOMETER OF ICE.

A public lecture in the 23<sup>rd</sup> "Explore the Wonders of the Universe" series, Mount Tamalpais State Park, California, September 3, 2011.

#### EXTREME ASTRONOMY: EYEING THE COSMOS THROUGH A CUBIC KILOMETER OF ICE.

A public lecture in the "What Physicists Do" lecture series, Sonoma State University, November 1, 2010.

#### ICECUBE: NEUTRINO ASTRONOMY WITH A CUBIC KILOMETER OF ICE.

Physics and Astronomy Department colloquium, San Francisco State University, October 25, 2010.

#### SEARCHING FOR COSMIC NEUTRINOS WITH A CUBIC KILOMETER OF ICE.

Physics and Astronomy Department colloquium, Sacramento State University, October 21, 2010.

#### ICECUBE: EXPLORING THE UNIVERSE FROM THE SOUTH POLE WITH HIGH ENERGY NEUTRINOS.

SCAR XXXI and Open Science Conference (SCAR 2010), Buenos Aires, Argentina, August 3-6, 2010.

#### ICECUBE NEUTRINO OBSERVATORY AT THE SOUTH POLE.

XXVII<sup>th</sup> General Assembly of the International Astronomical Union (IAU), Rio de Janeiro, Brazil, August 3-14, 2009.

#### ICECUBE: NEW DIRECTIONS IN ASTRONOMY FROM THE SOUTH POLE.

Space Sciences Lab Colloquium, University of California, Berkeley, March 6, 2009.

#### ICECUBE: EXPLORING THE UNIVERSE WITH HIGH ENERGY NEUTRINOS AT THE SOUTH POLE.

Joint Scientific Committee on Antarctic Research (SCAR) and International Arctic Science Committee (IASC) Open Science Conference, St. Petersburg, Russia, July 8-11, 2008.

#### ICECUBE: EXPLORING THE UNIVERSE WITH HIGH ENERGY NEUTRINOS.

Nuclear Physics Seminar, Physics Department, Purdue University, March 26, 2007.

#### RECENT DISCOVERIES AT THE RELATIVISTIC HEAVY ION COLLIDER.

Nuclear Chemistry/Physics Seminar, Brookhaven National Laboratory, November 17, 2005.

Chemistry Department Seminar, State University of New York at Stony Brook, November 15, 2005.

Laboratory for Nuclear Science Seminar, Massachusetts Institute of Technology, March 9, 2005.

Physics Department Colloquium, University of Illinois at Chicago, March 7, 2005.

#### HIGH $P_T$ CORRELATIONS OF $\gamma$ AND CHARGED HADRONS AT RHIC.

21<sup>st</sup> Winter Workshop on Nuclear Dynamics, Breckenridge, Colorado, February 5-12, 2005.

#### COLLECTIVE FLOW IN HEAVY ION COLLISIONS.

"Strongly Coupled Plasmas: Electromagnetic, Nuclear and Atomic", a RIKEN-BNL Workshop, Brookhaven National Laboratory, NY, December 16-17, 2004.

#### DIHADRON CORRELATIONS AT HIGH $P_T$ .

Workshop for Young Scientists on the Physics of Ultrarelativistic Nucleus-Nucleus Collisions (Hot Quarks 2004), Taos Valley, New Mexico, July 18-24, 2004.

#### JETS AS A PROBE OF DENSE MATTER AT RHIC.

Plenary talk at XVII International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 2004), Oakland, California, January 11-17, 2004.

#### HIGH $P_T$ PHENOMENA AT RHIC.

Invited Session of American Physical Society April Meeting, Philadelphia, Pennsylvania, April 5-8, 2003.

OVERVIEW OF RESULTS FROM THE STAR EXPERIMENT AT RHIC.

International Conference "I. Ya. Pomeranchuk and physics at the turn of centuries", Moscow, Russia, Jan. 24-28, 2003.

HIGH  $P_T$  HADRONS IN AU+AU COLLISIONS AT RHIC.

XXXII International Symposium on Multiparticle Dynamics, Alushta, Ukraine, September 13-17, 2002.

ELLIPTIC FLOW AT HIGH  $P_T$ .

"Current and future directions at RHIC", a workshop at Brookhaven National Laboratory, NY, August 5-9, 2002.

Workshop on Two-particle Interferometry and Elliptic Flow at RHIC, Brookhaven National Laboratory, June 14-15, 2002

$V_2$  AT HIGH  $P_T$  AT RHIC.

Nuclear Physics Seminar, Brookhaven National Laboratory, NY, February 12, 2002.

INCLUSIVE SPECTRA AND  $V_2$  OF CHARGED PARTICLES AT HIGH  $P_T$ .

"High  $p_t$  Phenomena at RHIC", a workshop on Hard Scattering Processes in Nuclear Collisions, Brookhaven National Laboratory, NY, November 1-2, 2001.

NEW RESULTS ON PB-AU COLLISIONS AT 40 GEV/NUCLEON FROM CERES/NA45 EXPERIMENT.

Heavy Ion Tea Seminar, Lawrence Berkeley National Laboratory, CA, April 17, 2001.

DIRECTED FLOW OF ANTIPROTONS AT AGS.

RNM Workshop on Flow at Ultra-relativistic Energies, University of Frankfurt, Frankfurt, Germany, February 3, 2000.

FLOW SYSTEMATICS IN HIGH-ENERGY HEAVY-ION COLLISIONS.

Palaver Seminar, Physikalisches Institut, University of Heidelberg, Heidelberg, Germany, May 31, 1999.

RECENT RESULTS FROM E877 FOR AU+AU COLLISIONS AT AGS ENERGY.

Plenary talk at XIV International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 99), Torino, Italy, May 10-15, 1999.

**Contributed talks:**

FROM AMANDA TO ICECUBE: NEUTRINO ASTRONOMY AT THE SOUTH POLE.

9<sup>th</sup> Conference on the Intersections of Particle and Nuclear Physics (CIPANP 2006), Rio Grande, Puerto Rico, May 30-June 3, 2006.

AZIMUTHAL ANISOTROPY OF CHARGED AND IDENTIFIED HADRONS IN AU+AU COLLISIONS AT RHIC.

XVI<sup>th</sup> International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 02), Nantes, France, July 18-24, 2002.

NEW RESULTS ON PB-AU COLLISIONS AT 40 AGEV FROM THE CERES/NA45 EXPERIMENT.

International Nuclear Physics Conference (INPC 2001): Nuclear Physics and the 21st Century, Berkeley, California, 30 Jul - 3 Aug, 2001.

DIRECTED FLOW OF IDENTIFIED PARTICLES IN AU+AU COLLISIONS AT 11.5 AGEV/C.

Canadian Association of Physicists (CAP) Congress, University of Waterloo, Ontario, Canada, June 14-17, 1998.

ANISOTROPIC AZIMUTHAL DISTRIBUTIONS OF IDENTIFIED PARTICLES IN AU+AU COLLISIONS AT 11.5 AGEV/C.

UIC Summer Workshop on Particle Distributions in Hadronic and Nuclear Collisions, Chicago, IL, June 11-13, 1998.

ANTIPROTON PRODUCTION IN AU+AU COLLISIONS AT 11.5 A GEV/C.

CAP Eastern Regional Nuclear Physics Conference, Chalk River Laboratories, Canada, Feb. 27 - March 2, 1997

A STUDY OF GAS PROPORTIONAL CHAMBER WITH CHEVRON CATHODE PAD READOUT.

CAP Eastern Regional Nuclear Physics Conference, Mont-Gabriel, Quebec, Canada, 17-19 March 1995