

# Kirill FILIMONOV

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## EDUCATION

### **Ph.D., March 1999**

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

### **M.Sc., June 1993**

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

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## EMPLOYMENT AND RESEARCH EXPERIENCE

### **Assistant Research Physicist**

**Mar 2005 - present**

Department of Physics, University of California, Berkeley, USA

Currently working on the IceCube project, a one-cubic-kilometer high-energy neutrino observatory being built and installed in the deep ice below the South Pole Station. IceCube will search for neutrinos from the most violent astrophysical sources, like exploding stars, gamma ray bursts, and cataclysmic phenomena involving black holes and neutron stars, and supersymmetric particles and the topological defects created in grand unified phase transitions in the early universe.

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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 (plenary talk at Quark Matter'04)

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 (February 2005-present)
- Convenor of STAR high  $p_T$  physics working group (March 2004 - September 2005)
- Shift crew leader and detector operator during data taking
- Member of several STAR internal paper review committees
- 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

## SCIENTIFIC PUBLICATIONS

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

FIVE YEARS OF SEARCHES FOR POINT SOURCES OF ASTROPHYSICAL NEUTRINOS WITH THE AMANDAII NEUTRINO TELESCOPE.

IceCube Collaboration (A. Achterberg *et al.*). Submitted to Phys.Rev.D, astro-ph/0611063

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.*). Submitted to Phys.Rev.C, nucl-ex/0701010

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.*). Submitted to Phys.Lett.B, nucl-ex/0611022

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.*). Submitted to Phys.Rev.C, nucl-ex/0609021

STRANGE PARTICLE PRODUCTION IN P+P COLLISIONS AT  $\sqrt{s} = 200$  GEV.

STAR Collaboration (B.I. Abelev *et al.*). Submitted to Phys.Rev.C, nucl-ex/0607033

TRANSVERSE MOMENTUM AND CENTRALITY DEPENDENCE OF HIGH- $P_T$  NON-PHOTONIC ELECTRON SUPPRESSION IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (B.I. Abelev *et al.*). Submitted to Phys.Rev.Lett., nucl-ex/0607012

$\Delta\phi\Delta\eta$  CORRELATIONS IN CENTRAL AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Submitted to Phys.Rev.C, nucl-ex/0607003

STRANGELET SEARCH AT RHIC.

STAR Collaboration (J. Adams *et al.*). Submitted to Phys.Rev.Lett., nucl-ex/0511047

## **Publications in refereed journals:**

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.*). To appear in Phys.Rev.Lett., nucl-ex/0606014

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.

PHOTON AND NEUTRAL PION PRODUCTION IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.C70:044902,2004.

CENTRALITY AND PSEUDORAPIDITY DEPENDENCE OF CHARGED HADRON PRODUCTION AT INTERMEDIATE P<sub>T</sub> IN AU + AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.C70:044901,2004.

RAPIDITY AND CENTRALITY DEPENDENCE OF PROTON AND ANTI-PROTON PRODUCTION FROM AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.C70:041901(R),2004.

PRODUCTION OF e<sup>+</sup>e<sup>-</sup> PAIRS ACCOMPANIED BY NUCLEAR DISSOCIATION IN ULTRA-PERIPHERAL HEAVY ION COLLISION.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.C70:031902(R),2004.

KAON PRODUCTION AND KAON TO PION RATIO IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (C. Adler *et al.*). Phys.Lett.B595:143,2004.

AZIMUTHALLY SENSITIVE HBT IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.93:012301,2004.

MULTI-STRANGE BARYON PRODUCTION IN AU-AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.92:182301,2004.

CROSS SECTIONS AND TRANSVERSE SINGLE-SPIN ASYMMETRIES IN FORWARD NEUTRAL PION PRODUCTION FROM PROTON COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.92:171801,2004.

IDENTIFIED PARTICLE DISTRIBUTIONS IN PP AND AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.92:112301,2004.

ρ<sup>0</sup> PRODUCTION AND POSSIBLE MODIFICATION IN AU+AU AND P+P COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.  
STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.92:092301,2004.

ELLIPTIC FLOW CONTRIBUTION TO TWO-PARTICLE CORRELATIONS AT DIFFERENT ORIENTATIONS TO THE REACTION PLANE.

J. Bielcikova, S. Esumi, K. Filimonov, S. Voloshin, J.P. Wurm. Phys.Rev.C69:021901(R),2004.

AZIMUTHAL ANISOTROPY AT RHIC: THE FIRST AND FOURTH HARMONICS.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.92:062301,2004.

PARTICLE-TYPE DEPENDENCE OF AZIMUTHAL ANISOTROPY AND NUCLEAR MODIFICATION OF PARTICLE PRODUCTION IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.92:052302,2004.

SEMI-HARD SCATTERING UNRAVELED FROM COLLECTIVE DYNAMICS BY TWO-PION CORRELATIONS IN 158 AGEV/C PB+AU COLLISIONS.

CERES/NA45 Collaboration (G. Agakichiev *et al.*). Phys.Rev.Lett.92:032301,2004.

PION-KAON CORRELATIONS IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.91:262302,2003.

THREE-PION HBT CORRELATIONS IN RELATIVISTIC HEAVY-ION COLLISIONS FROM THE STAR EXPERIMENT.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.91:262301,2003.

MINI-JET SCALE AND ENERGY LOSS AT RELATIVISTIC ENERGIES IN EVENT GENERATOR MODELS.

V. Topor Pop, M. Gyulassy, J. Barrette, C. Gale, X. N. Wang, N. Xu, and K. Filimonov. Phys.Rev.C68:054902,2003.

NET CHARGE FLUCTUATIONS IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.C68:044905,2003.

EVENT-BY-EVENT FLUCTUATIONS OF MEAN TRANSVERSE MOMENTUM IN 40, 80, AND 158 AGEV/C PB-AU COLLISIONS.

CERES/NA45 Collaboration (D. Adamova *et al.*). Nucl.Phys.A.727:97-119,2003.

TRANSVERSE MOMENTUM AND COLLISION ENERGY DEPENDENCE OF HIGH  $P_T$  HADRON SUPPRESSION IN AU+AU COLLISIONS AT ULTRARELATIVISTIC ENERGIES.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.91:172302,2003.

EVIDENCE FROM d+AU MEASUREMENTS FOR FINAL-STATE SUPPRESSION OF HIGH  $P_T$  HADRONS IN AU+AU COLLISIONS AT RHIC.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.91:072304,2003.

ENHANCED PRODUCTION OF LOW-MASS ELECTRON PAIRS IN 40 AGEV PB-AU COLLISIONS AT THE CERN SPS.

CERES/NA45 Collaboration (D. Adamova *et al.*). Phys.Rev.Lett.91:042301,2003.

STRANGE ANTI-PARTICLE TO PARTICLE RATIOS AT MID-RAPIDITY IN  $\sqrt{s_{NN}} = 130$  GEV AU+AU COLLISIONS.

STAR Collaboration (J. Adams *et al.*). Phys.Lett.B567:167-174,2003.

NARROWING OF THE BALANCE FUNCTION WITH CENTRALITY IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.

STAR Collaboration (J. Adams *et al.*). Phys.Rev.Lett.90:172301,2003.

DISAPPEARANCE OF BACK-TO-BACK HIGH  $P_T$  HADRON CORRELATIONS IN CENTRAL AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 200$  GEV.

STAR Collaboration (C. Adler *et al.*). Phys.Rev.Lett.90:082302,2003.

AZIMUTHAL ANISOTROPY AND CORRELATIONS IN THE HARD SCATTERING REGIME AT RHIC.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.Lett.90:032301,2003.

UNIVERSAL PION FREEZEOUT IN HEAVY ION COLLISIONS.  
CERES Collaboration (D. Adamova *et al.*). Phys.Rev.Lett.90:022301,2003.

BEAM ENERGY AND CENTRALITY DEPENDENCE OF TWO PION BOSE-EINSTEIN CORRELATIONS AT SPS ENERGIES.  
CERES Collaboration (D. Adamova *et al.*). Nucl.Phys.A.714:124-144,2003.

COHERENT  $\rho^0$  PRODUCTION IN ULTRAPERIPHERAL HEAVY ION COLLISIONS.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.Lett.89:272302,2002.

CENTRALITY DEPENDENCE OF HIGH  $P_T$  HADRON SUPPRESSION IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.Lett.89:202301,2002.

$K^*(892)$  PRODUCTION IN RELATIVISTIC HEAVY ION COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.C66:061901(R),2002.

ELLIPTIC FLOW FROM TWO AND FOUR PARTICLE CORRELATIONS IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.C66:034904,2002.

AZIMUTHAL ANISOTROPY OF  $K_s^0$  AND  $\Lambda + \bar{\Lambda}$  PRODUCTION AT MIDRAPIDITY FROM AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.Lett.89:132301,2002.

MIDRAPIDITY  $\Lambda$  AND  $\bar{\Lambda}$  PRODUCTION IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.Lett.89:092301,2002.

MEASUREMENT OF INCLUSIVE ANTIPROTONS FROM AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV.  
STAR Collaboration (C. Adler *et al.*). Phys.Rev.Lett.87:262302,2001.

$\Lambda$  PRODUCTION AND FLOW IN AU + AU COLLISIONS AT 11.5 AGEV/C.  
E877 Collaboration (J. Barrette *et al.*). Phys.Rev.C63:014902,2001.

DIRECTED FLOW OF ANTI-PROTONS IN AU + AU COLLISIONS AT AGS.  
E877 Collaboration (J. Barrette *et al.*). Phys.Lett.B485:319-326,2000.

PROTON AND PION PRODUCTION IN AU + AU COLLISIONS AT 10.8 AGEV/C.  
E877 Collaboration (J. Barrette *et al.*). Phys.Rev.C62:024901,2000.

LIGHT FRAGMENT YIELDS FROM AU + AU COLLISIONS AT 11.5 AGEV/C.  
E814/E877 Collaboration (J. Barrette *et al.*). Phys.Rev.C61:044906,2000.

TWO PROTON CORRELATIONS FROM 14.6 AGEV/C SI+PB AND 11.5 AGEV/C AU+AU CENTRAL COLLISIONS.  
E814/E877 Collaboration (J. Barrette *et al.*). Phys.Rev.C60:054905,1999.

DIRECTED FLOW OF LIGHT NUCLEI IN AU + AU COLLISIONS AT AGS ENERGIES.  
E877 collaboration (J. Barrette *et al.*). Phys.Rev.C59:884-888,1999.

PROTON AND PION PRODUCTION RELATIVE TO THE REACTION PLANE IN AU+AU COLLISIONS AT AGS ENERGIES.

E877 Collaboration (J. Barrette *et al.*). Phys.Rev.C56:3254-3264,1997.

THE EFFECT OF RESONANCE STATES ON HYPERON POLARIZATION.

A.G. Drutskoi, K.V. Filimonov, I.L. Kiselevich, V.I. Mikhailichenko, S.Yu. Panitkin, A.K. Ponosov, F.M. Sergeev, M.Yu. Telnov. Phys.Lett.B333:561-563,1994

POLARIZATION OF  $\Sigma^+$  HYPERONS IN  $\pi$ +p INTERACTIONS AT 3.6 GEV/C TO 4.2 GEV/C.

V.Yu. Batusov, S.Yu. Panitkin, A.K. Ponosov, F.M. Sergeev, M.Yu. Telnov, K.V. Filimonov, A.G. Drutskoi, V.I. Mikhailichenko, I.L. Kiselevich. JETP Lett.57:530-533,1993

POLARIZATION OF  $\Lambda$ -HYPERON IN  $\pi$ +p INTERACTIONS AT 4.2 GEV/C.

A.I. Amelin, A.S. Belokurov, A.G. Drutskoi, I.L. Kiselevich, V.I. Mikhailichenko, S.Yu. Panitkin, A.K. Ponosov, F.M. Sergeev, M.Yu. Telnov, K.V. Filimonov. Sov.J.Nucl.Phys.55:1647-1650,1992

### **Technical Publications in Journals:**

THE STAR BARREL ELECTROMAGNETIC CALORIMETER.

STAR Collaboration (M. Beddo *et al.*) Nucl.Instrum.Meth.A499:725-739,2003.

STAR DETECTOR OVERVIEW.

STAR Collaboration (K. H. Ackermann *et al.*) Nucl.Instrum.Meth.A499:624-632,2003.

CONSTRUCTION AND PERFORMANCE OF THE PHENIX PAD CHAMBERS.

K. Adcox *et al.* Nucl.Instrum.Meth.A497:263-293,2003.

A TIME-OF-FLIGHT HODOSCOPE FOR THE E877 SPECTROMETER.

R. Lacasse, J. Barrette, Y. Dai, K. Filimonov, S. Gilbert, S.K. Mark, C. Pruneau, M. Rosati, Y.J. Qi, N. Starinsky, G. Wang, S. Sedykh, C.L. Woody. Nucl.Instrum.Meth.A408:408-424,1998.

A STUDY OF MWPC WITH CHEVRON CATHODE PAD READOUT.

J. Barrette, Y. Dai, K. Filimonov, D. Gan, S.K. Mark, Y.J. Qi, M. Rosati, N. Starinsky, M. Wang, B. Zhang, B. Yu, B. Libby. Nucl.Instrum.Meth.A385:523-529,1997.

### **Conference Publications in Journals:**

FROM AMANDA TO ICECUBE.

IceCube Collaboration (M. Ribordy *et al.*). Phys.Atom.Nucl.69:1899-1907,2006.

SEMIHARD SCATTERING UNRAVELED FROM COLLECTIVE FLOW AT THE SPS.

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RECENT HIGH-P(T) RESULTS FROM STAR.

STAR Collaboration (C.A. Gagliardi *et al.*). Eur.Phys.J.C43:263-270,2005.

CHARM PRODUCTION IN THE STAR EXPERIMENT AT RHIC.

STAR Collaboration (A.A.P. Suaide *et al.*). Eur.Phys.J.C43:193-200,2005.

OPEN CHARM PRODUCTION FROM D + AU COLLISIONS IN STAR.

STAR Collaboration (M. Calderon de la Barca Sanchez *et al.*). Eur.Phys.J.C43:187-192,2005.

HIGH  $P_T$  CORRELATIONS OF  $\gamma$  AND CHARGED HADRONS AT RHIC.  
K. Filimonov, Acta Phys.Hung.A25:363-370,2006.

DIHADRON CORELLATIONS AT HIGH  $P_T$ .  
K. Filimonov, J. Phys. G31:S513-S519,2005.

EVENT-BY-EVENT FLUCTUATIONS AT SPS.  
CERES Collaboration (D. Adamova *et al.*). Nucl.Phys.A752:394-397,2005.

LATEST RESULTS ON  $e^+e^-$  PAIR PRODUCTION IN CERES.  
CERES Collaboration (S. Yurevich *et al.*). Nucl.Phys.A749:160-165,2005.

JETS AS A PROBE OF DENSE MATTER AT RHIC.  
K. Filimonov, J.Phys.G30:S919-S926,2004.

AN UPDATE FROM STAR - USING STRANGENESS TO PROBE RELATIVISTIC HEAVY ION COLLISIONS.  
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.

LATEST RESULTS FROM CERES/NA45.  
CERES Collaboration (J.P. Wessels *et al.*). Nucl.Phys.A715:262-271,2003.

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CERES Collaboration (D. Adamova *et al.*). Pramana 60:1067-1072,2003

NEW RESULTS FROM CERES.  
CERES Collaboration (D. Adamova *et al.*). Nucl.Phys.A698:253-260,2002

STRANGENESS IN AU+AU COLLISIONS AT  $\sqrt{s_{NN}} = 130$  GEV OBSERVED WITH THE STAR DETECTOR.  
STAR Collaboration (L.S. Barnby *et al.*). J.Phys.G28:1535-1542,2002

LAMBDA PRODUCTION IN 40 AGEV/C PB-AU COLLISIONS.  
CERES Collaboration (W. Schmitz *et al.*). J.Phys.G28:1861-1868,2002

FIRST RESULTS FROM THE CERES RADIAL TPC.  
CERES Collaboration (G. Agakishiev *et al.*). Nucl.Phys.A661:673-676,1999

RECENT RESULTS FROM E877 FOR AU + AU COLLISIONS AT AGS ENERGY.  
E877 Collaboration (K. Filimonov *et al.*). Nucl.Phys.A661:198-204,1999

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E877 Collaboration (J. Barrette *et al.*). Nucl.Phys.A638:69-80,1998

SPIN PHYSICS WITH THE PHENIX DETECTOR SYSTEM.  
PHENIX Collaboration (N. Saito *et al.*). Nucl.Phys.A638:575-578,1998

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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.  
E877 Collaboration (S. Voloshin *et al.*). Nucl.Phys.A638:455c-458c,1998

FLOW STUDIES AT 10.8 GEV/NUCLEON.

E877 Collaboration (T.K. Hemmick *et al.*). Nucl.Phys.A610:63c-75c,1996

TWO-PARTICLE CORRELATIONS IN AU + AU COLLISIONS AT AGS ENERGY.

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:**

CONTRIBUTIONS TO 2ND TEV PARTICLE ASTROPHYSICS CONFERENCE (TEV PA II).

IceCube Collaboration (A. Achterberg *et al.*). Madison, Wisconsin, August 28-31, 2006. astro-ph/0611597

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.

IceCube Collaboration (A. Achterberg *et al.*). Proceedings of the 7th Workshop on Towards a Network of Atmospheric Cherenkov Detectors 2005, Palaiseau, France, 27-29 Apr 2005, astro-ph/0509396.

THE ICECUBE COLLABORATION: CONTRIBUTIONS TO THE 29TH INTERNATIONAL COSMIC RAY CONFERENCE (ICRC 2005), PUNE, INDIA, AUG. 2005.

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 DISCOVERIES AT THE RELATIVISTIC HEAVY ION COLLIDER.

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.

21st 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, January 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  $P_T$ .

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

DIRECTED FLOW OF ANTIPROTONS AT AGS.

RNM Workshop on Flow at Ultrarelativistic Energies, University of Frankfurt, Frankfurt, Germany, February 3, 2000.

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 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.