

Scientific program of XXI International Meeting Physical Interpretations of Relativity Theory - 2019

01-05 July 2019

Monday, 1st July 2019

Gravitational waves and experimental tests of the relativity theory

8.00-9.00	Registration of delegates	
9.00-9.30	Opening the PIRT Meeting	
Chairman: Gladyshev V.O.		
9.30-10.00	Starobinsky A.A.	<i>Inflation: the present status and future perspectives</i>
10.00-10.30	Vyatchanin S.	<i>Calculation of thermal noise of beam splitters in laser gravitational wave detectors from first principles</i>
10.30-11.00	Mishra B.	<i>New approach to study the dynamical cosmic behaviour in extended gravity</i>
11.00-11.30	Lipunov V.M.	<i>Gravitational-wave astrophysics: sources of gravitational waves and their localization</i>
11.30-12.00	Coffee Break	
Chairman: Starobinsky A.A.		
12.00-12.30	Milyukov V.	<i>The space-borne gravitational wave detector TianQin: mission concept and realization</i>
12.30-13.00	Siparov S.V.	<i>Registration of gravitational waves emitted by periodic astrophysical sources and the prospects for GW-astronomy</i>
13.00-14.00	Lunch	
Chairman: Gorelik V.S.		
14.00-14.25	Pinto I.M.	<i>Reducing Optical Coating Thermal Noise in Interferometric Detectors of Gravitational Waves</i>
14.25-14.50	Le T.D.	<i>An updated constraint on the variations of the fine-structure constant from strong gravitational fields</i>
14.50-15.15	Litvinov D., Gusev A., Kauts V., Kulagin V., Rudenko V.	<i>Space gravitational experiments with quantum standards of frequency and time</i>
15.15-15.40	Mayburov S.	<i>Nucleus decay oscillations as possible quantum gravity effect</i>
15.40-16.10	Coffee Break	
Chairman: Pinto I.M.		
16.10-16.30	Gorelik V.S.	<i>Bound State of Photons and High Frequency Gravitational Waves excited in Media by Laser Emission</i>
16.30-16.50	Izmailov G.N, Zherihina L.N.	<i>A network of precision clocks as an antenna for millihertz gravitational waves</i>

16.50-17.10	Fil'chenkov M.L., Laptev Yu.P.	Gravitational radiation from minihole coalescence and quadrupole transitions of hydrogen-like atoms
17.10-17.30	Krysanov V.A.	Laser Noise Control in the Optoacoustical GW Antenna
17.30-17.50	Fisenko S.	On the issue of gravitational radiation and thermonuclear fusion
Poster Papers	Lukanenkov A.V.	Analysis of gravitational experiments
	Gladyshev V.O., Bazlev D.A., Kayutenko A.V.	The new analytics platform for the search of new scientific knowledge in relativity theory
11.30-12.00	Mubarakshin I.R.	About principal propositions of the special relativity theory
15.40-16.10		

Tuesday, 2nd July 2019

Gravitation, cosmology and large-scale structure

Chairman: Rowlands P.		
9.30-9.55	Medeiros L.G., Guzinatto R.R., Pompeia P.L.	Modified Starobinsky inflation
9.55-10.20	Behera D.	Cosmic transit behaviour and anisotropic Cosmological models
10.20-10.45	Beesham A.	The cosmological parameter: constant or dynamical
10.45-11.05	Coffee Break	
Chairman: Vargashkin V.Ya.		
11.05-11.30	Saibatalov R.	The Meaning of Cosmological Rotation
11.30-11.55	Sharif M.	Solutions and Minimal Geometric Deformation
11.55-12.20	Tripathy S.K.	Bouncing models in extended gravity theory
12.20-12.45	Berezin V.A., Dokuchaev V.I., Eroshenko Yu.N., Smirnov A.L.	Double layers in the Weyl+Einstein gravity
12.45-13.10	Chervon S.V.	Cosmological parameters in modified theories
13.10-14.00	Lunch	
Chairman: Chervon S.V.		
14.00-14.25	Nikolaev A.V., Chervon S.V., Mayorova T.I.	Kinetic scalar curvature extended $f(R)$ gravity
14.25-14.50	Novikov D.	Zeldovich-Sunyaev anisotropy effect and the possibility of independent measurement of cosmic microwave background dipole, quadrupole and octupole.
14.50-15.10	Fomin I.V.	The general relativistic cosmological solutions in modified gravity theories
15.10-15.30	Singh V., Beesham A.	Some exact solutions of anisotropic cosmological models

15.30-15.45	Kudriavtsev Y.	<i>The phenomenon of the central symmetry and antisymmetry of the celestial sphere and its significance for the cosmological model of The Big Bang</i>	
15.45-16.15	Coffee Break		
Chairman: Beesham A.			
16.15-16.30	Ray Pratik P, Mishra B.	<i>Stability of mix-fluids in dark energy cosmological models and an advanced diagnostic analysis</i>	
16.30-16.45	Babourova O.V., Frolov B.N.	<i>On the exponential decrease of the “cosmological constant” in the superearly Universe</i>	
16.45-17.00	Vladimirov Yu.S.	<i>Physical interactions in three metaphysical paradigms</i>	
17.00-17.15	Brassel B.P., Maharaj S.D.	<i>The Boulware-Deser spacetime: Solutions and features</i>	
17.15-17.30	Bogoslovsky G.Yu.	<i>A curved spacetime with DISIM_b(2) local relativistic symmetry and local gauge invariance of its Finslerian metric</i>	
17.30-17.45	Dumin Yu.V.	<i>Cosmological Inflation from the Quantum-Mechanical Uncertainty Relation</i>	
17.45-18.00	Vargashkin V.Ya	<i>The analysis of CMB anisotropy in temporary domain according to databases of the probes WMAP and PLANCK</i>	
Poster Papers	Konstantinov M.Yu.	<i>Superluminal Fields in Bimetric Space-Time Theory</i>	
	Antonyuk P.N.	<i>On the Hubble-Lemaitre law</i>	
	10.45-11.05	Chaadaev A.A., Chervon S.V.	<i>Spherically symmetric solutions in $f(\mathbf{R},(\nabla\mathbf{R})^2)$ gravity</i>
	15.45-16.15	Emtsova E.D., Toporensky A.V	<i>Velocities of distant objects in General Relativity: definitions, interpretations, misconceptions</i>
		Kudriavtsev Y.	<i>On physical and non-physical time in Cosmology and Quantum Mechanics</i>
		Chervon S.V., Fomin I.V., Mayorova T.I., Khapaeva A.V.	<i>Cosmological parameters for $f(\mathbf{R},(\nabla\mathbf{R})^2)$ theory of gravity</i>

Wednesday, 3rd July 2019
Relativistic electrodynamics

Chairman: Gladyshev V.O.		
9.00-9.25	Kalachevsky N.N.	<i>Perspective methods for measuring the gravitational field</i>
9.25-9.50	Balakin A.B.	<i>Dark Fluid Electrodynamics</i>
9.50-10.10	Bulyzhenkov I.	<i>Umov’s thermomechanics of inertial thermal energies instead of Newtonian mechanics of cold masses</i>
10.10-10.30	Korotaev S.M., Budnev N.M., Serdyuk V.O., Kiktenko E.O., Gorohov J.V., Orekhova D.A.	<i>Macroscopic Nonlocal Correlations in Reverse Time by Data of the Baikal Experiment</i>

10.30-10.50	<i>Pustovoit V., Gladyshev V., Kauts V., Morozov A., Gorelik V., Fomin I., Portnov D., Sharandin E., Kayutenko A.</i>	<i>High frequency gravitational waves generation by optical method</i>
10.50-11.10	Coffee Break	
Chairman: Rowlands P.		
11.10-11.30	<i>Chernitskii A.A.</i>	<i>Photons as solitons</i>
11.30-11.50	<i>Zhogin I.L.</i>	<i>Pseudogravitational waves</i>
11.50-12.10	<i>Alimkina I.S., Filatov V.V., Gorelik V.S., Pichkurenko S.V.</i>	<i>Influence of Control Signal on the Amplitude-Frequency Characteristic of the Damper Based on Magnetorheological Elastomers Paraphoton lasing in periodic dielectrics</i>
12.10-12.30	<i>Gladyshev V.D.</i>	<i>Configuration manifolds of a spherically symmetric system of gravitational and electromagnetic fields</i>
12.25-12.40	<i>Gevorkyan M.N., Korolkova A.V., Kulyabov D.S.</i>	<i>Hyperbolic numbers as Einstein Numbers</i>
12.40-12.55	<i>Amoroso R.L.</i>	<i>Sagnac Dual-Polarized Ring Laser Interferometric Effects of Gravity on EM-Wave Polarization</i>
12.55-13.10	<i>Selivanov A.B., Gerasimov Yu.V., Konstantinov M.Yu.</i>	<i>Emergency seismic sensing method of asteroid structure</i>
Poster Papers	<i>Gladysheva Ya.V.</i>	<i>Calibration of high precision surfaces of gravitational wave telescope optics</i>
	<i>Komshin A.</i>	<i>Metrological support of technogenic systems based on the study of the influence heliogeophysical space</i>
	10.50-11.10 <i>Gladyshev V.O., Strunin A.G., Kayutenko A.V., Portnov D.I.</i>	<i>Mathematical model of optical radiation propagation in a microsatellite moving in near-earth orbit</i>
	<i>Sharandin E., Gladyshev V.</i>	<i>Simulation of radiation generation in a multistage laser</i>
	<i>Hajra S.</i>	<i>An Electrodynamical Study of Shapiro Time Delay</i>
	<i>Petrov V.A.</i>	<i>On the "Special" Relativity Genesis: Russian Connection</i>

Thursday, 4th July 2019

Modern problems of classical and quantum field theory

Chairman: Gutierrez-Pineros A.C.		
9.00-9.40	<i>Kauffman L.H.</i>	<i>Majorana Fermions, Braiding and the Dirac Equation</i>
9.40-10.10	<i>Grib A., Pavlov Yu.</i>	<i>Penrose effect in the rotating coordinate system</i>
10.10-10.40	<i>Darvas G.</i>	<i>Giving mass to the mediating boson of Hypersymmetry by a field transformation applying Higgs mechanism beyond the Standard Model</i>
10.40-11.10	<i>Romero C.</i>	<i>One Hundred Years of Weyl's (unfinished) unified field theory</i>

11.10-11.30	Coffee Break	
Chairman: Romero C.		
11.30-11.55	Rowlands P.	Gravity: Local or Nonlocal
11.55-12.20	Maharaj S.	Exact models: symmetries of equations and spacetime
12.20-12.45	Gutierrez-Pineros A.S., Quevedo H.	C^3 -Criterion for matching asymptotically flat space-times in General Relativity
12.45-13.10	Emtsova E.D., Petrov A.N., Toporensky A.V.	On conservation laws in Teleparallel gravity
13.10-14.00	Lunch	
Chairman: Darvas G.		
14.00-14.15	Burinskii A.	Magic of the Kerr spinning gravity: unification of gravity with particle physics
14.15-14.30	Lebed A.G.	Inequivalence between active gravitational mass and energy of a composite quantum body
14.30-14.45	Meierovich B.E.	Black hole and dark matter. Phase equilibrium.
14.45-15.00	Pavlov D.G.	Basic properties of the time field
15.00-15.15	Garat A.	Dynamical symmetry breaking in geometrodynamics
15.15-15.30	Akpojotor G., Animalu A., Edeagu S., Trell E.	Generalized Lie Algebraic Geometry in $R^3 \times SO(3)$ Configuration Space for $SU(3)$ of Elementary Particles and for Wave-packing of Atomic Structure
15.30-15.45	Zloshchastiev K.G.	Logarithmic superfluid theory of physical vacuum
15.45-16.15	Coffee Break	
Chairman: Kauffman L.H.		
16.15-16.30	Shishanin A.O.	LCFT and Liouville theory
16.30-16.45	Tsipenyuk D.Yu , Andreev V.A.	Approach to the gauge theories for massive fields in the extended space model
16.45-17.00	Ibeh G., Akpojotor G., Trell E., Animalu A.	Reformulation of the $O(4,2) \times SU(3) \times U(1)$ Gauge Theory of Quantum Gravity using the Generic Torus as Oyibo GUT Geometrical Object
17.00-17.15	Monakhov V.V.	Vacuum and space-time signature in the theory of superalgebraic spinors.
17.15-17.30	Petrova L.I.	Formatting physical fields and pseudometric manifolds. The dark matter.
17.30-17.45	Brandyshev P.E.	Higgs boson and Dark energy in conformal supergravity
17.45-18.00	Il'ichov L.V.	Category forms of Non-Signalling and Local Causality and their duals
Poster Papers	Abdullin S.R.	Field Theory as Oscillator System
	Yurasov N. I.	On the nature of a particle spin in the standard model
	Koryukin V.M., Koryukin A.V., Kostromina E.V.	On the metrizable of the affine connectivity space and the unified theory of fundamental interactions
11.10-11.30 15.45-16.15		

Friday, 5th July 2019
High energy astrophysics

Chairman: Garat A.		
9.00-9.25	Trell E.	<i>A Space-Frame Periodic Table Representation System Testing Relativity in Nucleosynthesis of the Elements</i>
9.25-9.50	Sahoo P.K.	<i>The redshift function of traversable wormholes in $f(R;T)$ gravity</i>
9.50-10.15	Krylova N.G., Grushevskaya H.V.	<i>Domain growth in a cosmology phase transition model with axially symmetric metrics</i>
10.15-10.40	Postnov K.	<i>Spins of black holes in coalescing compact binaries</i>
10.40-11.05	Coffee Break	
Chairman: Trell E.		
11.05-11.30	Mordvinov B.	<i>Large Dirac numbers and a new cosmological model</i>
11.30-11.55	Zubair M., Zeeshan M.	<i>Evolution of Collisional Matter in Modified Teleparallel Theories</i>
11.55-12.20	Kamalov T.F.	<i>Instability States and Uncertainty Relation</i>
12.20-12.45	Frolov B.N., Babourova O.V., Khetzeva M.S., Markova N.V.	<i>Nonmetricity plane waves in post Riemannian spacetime</i>
12.45-13.10	Levin S.F.	<i>Cosmological Distance Scale: The Scale Factor</i>
13.10-14.00	Lunch	
Chairman: Pavlov Yu.		
14.00-14.20	Dokuchaev V.I., Nazarova N.O., Smirnov V.P.	<i>Silhouette of the black hole event horizon</i>
14.20-14.40	Lukin V.V, Chechetkin V.M., Galanin M.	<i>Binary stars light curves interpretation using Yurasov 3D hydrodynamical simulation</i>
14.40-15.00	Ahmad S.	<i>Stability of anisotropic self-gravitating fluids</i>
15.00-15.15	Patrushev A.	<i>Entanglement entropy in strongly correlated systems dual to anisotropic gravitational models</i>
15.15-15.30	Petrov A.N., Guilleminot P., Olea R.	<i>On properties of constant curvature black holes in the Einstein-AdS gravity</i>
15.30-15.45	Pokrovsky Yu. E	<i>Stable Compact Objects from Dark Matter in Planetary Systems</i>
16.00-16.15	Coffee Break	
Chairman: Rowlands P.		
16.00-16.15	Silagadze Z.K., Maziashvili M.	<i>Non-local imprints of gravity on quantum theory</i>
16.15-16.30	Grunskaya L.V., Isakevich V.V., Isakevich D.V.	<i>The signs of relativistic binary star systems' influence on the Earth's electric field</i>
16.30-16.45	Grushevskaya H.V., Krylova N.G.	<i>Phase Transitions in Geometrothermodynamic Model of Charged generalized-NUT Black Holes</i>
16.45-17.00	Eroshenko Yu.N., Berezin V.A., Dokuchaev V.I.	<i>Global geometry if the Vaidya spacetime</i>
17.00-17.15	Avramenko A.E.	<i>Space-Time: from Indefinite at Locality to Generality at Infinite</i>

<i>17.15-17.30</i>	<i>Rowlands Joann Sydney</i>	<i>The Nilpotent Operator</i>
<i>17.30-18.00</i>	<i>Close of Moscow PIRT Meeting</i>	
<i>Poster</i>	<i>Kirillov A., Savelova E.</i>	<i>Wormhole as a possible accelerator of high-energy cosmic-ray particles</i>
<i>Papers</i>	<i>Azmat H.</i>	<i>Stability Analysis of Stellar Configurations in Modified Gravity</i>
<i>10.40-11.05</i>	<i>Ahmed</i>	<i>Black Hole Chemistry</i>
<i>16.00-16.15</i>	<i>Kauts V.</i>	<i>Positronium formation in the Galaxy.</i>