XXII International Meeting Physical Interpretations of Relativity Theory

PIRT- 2021

05-09 July 2021

Monday,5th July 2021
Gravitation, cosmology and large-scale structure

9.00-9.20	***Opening the PIRT Meeting***	
Chair: Pustovoit Vladislav		
9.20-9.40	*Starobinsky A.*	*Evolution of the mixed R^2-Higgs model during and after inflation*
9.40-10.00	*Mishra Bivudutta*	*Little rip cosmology in extended gravity*
10.00-10.20	*Beesham A.*	*Reconstruction of some cosmological models from the deceleration parameter*
10.20-10.40	*Chervon S., Fomin I.*	*Chiral cosmological models of f(R, (∇R)2, □R) gravity*
10.40-11.00	*Chakraborty Saikat, MacDevette Kelly, Dunsby Peter*	*A form-invariant approach to dynamical systems analysis in f(R) cosmology*
11.00-11.20	***Coffee Break***	
Chair: Chervon Sergey		
11.20-11.40	*Agrawal A., Mishra B., Tripathy S.*	*Matter bounce scenario in an extended gravity*
11.40-12.00	*Behera D.*	*Anisotropic Cosmological Models in f(R,T) theory*
12.00-12.20	*Berezin V., Dokuchaev V., Eroshenko Y., Smirnov A.*	*Cosmological solutions in Weyl geometry*
12.20-12.40	*Fomin I., Chervon S.*	*Relic gravitational waves in cosmological models based on the modified gravity theories*
12.40-13.20	***Lunch***	
Chair: Fomin Igor		
13.20-13.40	*Alexeyev S., Krichevskiy D.*	*Study of gravity models with nonlinear symmetry realization*
13.40-14.00	*Koshelev N.*	*Extended f (R) theories with kinetic curvature scalar in the weak field regime*
14.00-14.20	*Il'ichov L., Rostom A., Shepelin A., Tomilin V.*	*Multiworld Motives by Closed Timelike Curves*
14.20-14.40	*Chaadaev A.,Chervon S.*	*Exact spherically symmetric solutions in f (R, □R) gravity*
14.40-15.00	*Vertogradov V.*	*Forces in Schwarzschild, Vaidya and generalized Vaidya spacetimes*
15.00-15.20	***Coffee Break***	
Chair: Rowlands Peter		
15.20-15.40	*Emtsova E., Krssak M., Petrov A., Toporensky A.*	*On the Schwarzschild Solution in Teleparallel Equivalent of General Relativity*
15.40-16.00	*Tripathy S.*	*Unified Dark Fluid Models in Brans-Dicke Theory*
16.00-16.20	*Garat A.*	*A new symmetry for the imperfect fluid in relativistic astrophysics*
16.20-16.40	*Romero C.*	*The invariant Weyl theory of gravity*

16.40-17.00	*Sahoo Pradyumn Kumar*	*Wormhole geometry in a modified symmetric teleparallel gravity*
17.00-17.20	*Ibeh G., Akpojotor G.*	*Current Status of the Newtonian, Inflationary and Cyclic Models of the Early Universe*

Tuesday, 6th July 2021
Gravitation, cosmology and large-scale structure

Chair: Izmailov George		
9.00-9.20	*Sharif M.*	*Noether Symmetry Technique in Modified Gravity*
9.20-9.40	*Lohakare S., Mishra B.*	*Dynamical behaviour of accelerating cosmological model F (R,G) gravity*
9.40-10.00	*Pati L., Mishra B.*	*Dynamics of f(Q,T) gravity with variable deceleration parameter*
10.00-10.20	*Kadam S., Mishra B.*	*Late time cosmic acceleration model in F(T,B) gravity*
10.20-10.40	*Zubair M.*	*Evolution of Tsallis holographic dark energy in minimally coupled gravity*
10.40-11.00	*Zhuravlev V., Chervon S.*	*Method of multiscale expansions in problems of cosmological inflation*
11.00-11.20	***Coffee Break***	
Chair: Meierovich Boris		
11.20-11.40	*Bolshakova K., Chervon S.*	*Effective one field model of TMS gravity with the Higgs potential*
11.40-12.00	*Frolov B., Babourova O.*	*Decrease of the effective cosmological constant in the Poincaré-gauge theory of gravity with a scalar field*
12.00-12.20	*Ivanova I.*	*Null shells and double layers in Quadratic Gravity*
12.20-12.40	*Izmailov G.*	*An uniform model for Dark Matter and Dark Energy*
12.40-13.20	***Lunch***	
Chair: Burinskii Alexander		
13.20-13.40	*Pokrovsky Y.*	*F(R,G) Gravity with Maximal Noether Symmetry*
13.40-14.00	*Eroshenko Y.*	*Primordial black holes in the early universe*
14.00-14.20	*Dorofeev V.*	*Gravity on a nonassociative algebra*
14.20-14.40	*Ray Pratik Premadarshi*	*Stability analysis of two-fluid dark energy models*
14.40-15.00	*Bulyzhenkov I.*	*Why did Russian cosmists rethink Newtonian gravity through the kinetic monism of continuous space-matter?*
15.00-15.20	***Coffee Break***	
Chair: Trell Erik		
15.20-15.40	*Zhuravlev V.*	*The principle of materiality of space and the theory of fundamental fields*
15.40-16.00	*Chernitskii A.*	*Gravitation in theory of space-time film*
16.00-16.20	*Fisenko S.*	*Analogy of star formation with the formation of plasma of multicharged ions in pulsed high current discharges*
Poster Papers	*Brandyshev P.*	*Inflation in string-inspired supergravity with gauge shift symmetry*
	Khamis Hassan M., Volkova O., Kamalov T.	*Phenomenon of dark matter as result of non-calculation additional derivatives*

Poster Papers	*Okunev V.*	*An Elementary Analysis of the Simplest Relations of Relativity Theory*
	Okunev V.,Kruglov A	*Expansion of the Concept of the Term "Physical Vacuum"*
	Pankaj S.	*Cosmology phenomeon*
	Simran K.	*Matter Creation Cosmology*

Wednesday, 7th July 2021
Gravitational waves and experimental tests of the relativity theory

	Chair: Kauts Vladimir	
9.00-9.20	*Milyukov V.*	*The space-borne gravitational wave detector TianQin: Current progress on science and technology*
9.20-9.40	*Kauffman L.*	*Non-Commutative Worlds and Relativity*
9.40-10.00	*Levin S.*	*Cosmological distance scale: discordances and rank inversion*
10.00-10.20	*Vargashkin Vladimir*	*Statistical analysis of random error of satellite measurements of anisotropy of CMB temperature in temporally and frequency areas*
10.20-10.40	*Izmailov G., Ozolin V.*	*Precision clock network as a gravitational space-based antennas*
10.40-11.00	*Mayburov S.*	*Search for periodic variations of nucleus decay parameters*
11.00-11.20	***Coffee Break***	
	Chair: Vargashkin Vladimir	
11.20-11.40	*Pinto I.*	*Estimating the chirp-mass and eccentricity of coalescing binary systems from time-frequency analysis of their gravitational wave emission*
11.40-12.00	*Pinto I.*	*Fully optimized ternary coatings for next generation interferometric cryogenic detectors of gravitational waves*
12.00-12.20	*García-Farieta J.*	*Probing gravity with redshift-space distortions: effects of tracer bias and sample selection*
12.20-12.40	*Lebed A.*	*Breakdown of the Equivalence Principle for a composite quantum body*
12.40-13.20	***Lunch***	
	Chair: Pinto Innocenzo	
13.20-13.40	*Litvinov D, Pilipenko S.*	*Testing the Einstein equivalence principle with two Earth-orbiting clocks*
13.40-14.00	*Dubey R.*	*Hubble Tension in the perspective of Gravitational Waves Standard Siren*
14.00-14.20	*Avramenko A.*	*Pulsar: physical generalization of galactic time-space*
14.20-14.40	*Babourova O., Frolov B., Khetseva M., Kushnir D.*	*The structure of the curvature tensor of plane gravitational waves*
14.40-15.00	*Antonuyk P.*	*A new approach to the derivation of the law of universal gravitation from Kepler's laws*
15.00-15.20	***Coffee Break***	
	Chair: Siparov Sergey	
15.20-15.40	*Thong L.*	*A study of space-time variation of the gravitational constant using high-resolution quasar spectra*

15.40-16.00	*Pustovoit V., Gladyshev V., Kauts V., Morozov A., Nikolaev P., Fomin I., Sharandin E., Kayutenko A.*	*High frequency gravitational waves: generation, detection*
16.00-16.20	*Makarov A., Luneva L.*	*The problem of the existence of gravitational waves in classical physics*
16.20-16.40	*Gladyshev V., Sharandin E., Skrabatun A.*	*Generation of the third optical harmonic in air under femtosecond infrared repetitively pulsed excitation*
16.40-17.00	*Olkhov O.*	*Theory of relativity and geometrisation of quantum mechanics*
17.00-17.20	*Krysanov V.*	*Noise Factor and Reception Bandwidth in Optoacoustical GW Antenna*
Poster Papers	*Rudenko V., Krichevskiy D., Manucharyan G., Andrusenko S.*	*Euro-Asian gravitational network: criteria of quality*
	Belonenko A.	*Testing the principle of equivalence at a very large distance from the Earth according to the data of the Radioastron space experiment*
	Giri P.	*Locking of marginally stable cavities with TCS optics*
	Greco F., Krasnyy I.	*The novel pushing gravity model and volcanic activity. Is alignment of planets with compact stars a possible cause of natural phenomena?*
	Kopylov S.	*The hypothesis of evaporation of black holes in multidimensional spaces*
	Yurasov N.	*About spin of a massive particle in the Standard Model*

Thursday, 8th July 2021
Relativistic electrodynamics
Modern problems of classical and quantum field theory
High energy astrophysics

		Chair: Izmailov George
9.00-9.20	*Pavlov Y., Grib A.*	*Some properties of nonsynchronous reference frames in cosmology*
9.20-9.40	*Meierovich B.*	*Gravitational Radius in view of Existence and Uniqueness Theorem*
9.40-10.00	*Dokuchaev V., Nazarova N.*	*Imaging of black holes*
10.00-10.20	*Fil'chenkov M., Laptev Y.*	*Vacuum Polarization and Particle Creation for Two-Horizon Metrics*
10.20-10.40	*Zaslavskii O., Toporensky A.*	*Flow and peculiar velocities in the background of spherically symmetric black holes*
10.40-11.00	*Zloshchastiev K.*	*Superfluids in astrophysics and all that jazz*
11.00-11.20	***Coffee Break***	
		Chair: Pinto Innocenzo
11.20-11.40	*Rowlands P.*	*An Approach towards Grand Unification*
11.40-12.00	*Siparov S.*	*Completely geometrical theory*
12.00-12.20	*Petrov A.*	*The field-theoretical methods in Lovelock gravity*

12.20-12.40	*Shishanin A.*	*Examples of Calabi-Yau Threefolds with small Hodge numbers*
12.40-13.20	***Lunch***	
	Chair: Fomin Igor	
13.20-13.40	*Petrova L.*	*The connection of the field theory equations with the equations of mathematical physics. The nature and origins of dark matter and dark energy*
13.40-14.00	*Trell E.*	*From Photon to Oganesson: Lie Algebra Realization of the Standard Model Extending over the Periodic Table*
14.00-14.20	*Timofeev V.*	*On the force caused by a null Einstein-Maxwell field with the plane symmetry*
14.20-14.40	*Gutierrez-Pineres A.*	*Newman-Janis Ansatz for rotating wormholes*
14.40-15.00	*Burinskii A.*	*The Dirac electron consistent with proper gravitational and electromagnetic field of the Kerr-Newman solution*
15.00-15.20	***Coffee Break***	
	Chair: Rowlands Peter	
15.20-15.40	*Kamalov T.*	*What are Non-local Variables?*
15.40-16.00	*Karimov R., Izmailov R., Nandi K., Ivanova A.*	*Shapiro delay in Kerr-Sen black hole*
16.00-16.20	*Monakhov V., Kozhedub A.*	*Spinor vacuum and C, P, T inversions*
16.20-16.40	*Yusupova R., Izmailov R.*	*Properties of thin accretion disks in the space-time of a non-singular charged black hole*
16.40-17.00	*Akpojotor G., Ibeh G.*	*Can the Higgs radiation as the fundamental energy source be the path to a theory of everything?*
17.00-17.20	*Li B., Zhang H., Shum P.*	*The Underlying Mechanisms of Time Dilation Effect in Curved Space-Time*
Poster Papers	*Poplawski N.*	*Universe in a black hole with spin and torsion*
17.20-17.40	***Close of Moscow PIRT Meeting***	