

IZVEŠTAJ O RADU U ŠKOLSKOJ 2017/2018. GODINI
prof. dr **Goran S. Đorđević**

Nastava

- Osnove matematičke fizike,
- Uvod u kosmologiju;
- Fizika elementarnih čestica,
- Simetrije u fizici;
- Kvantna teorija na nearhimedovim i deformisanim prostorima.

Naučni radovi

- Djordjevic, G. S., Nesic, Lj. & Radovancevic, D. *Minisuperspace FLRW Oscillator Cosmological Model and Generalized Uncertainty Principle*, Classical and Quantum Gravity, 35 (2018), 195002.
- Dimitrijevic, D. D., Bilić, N., Djordjevic, G. S., Milosevic, M. & Stojanović, M. *Tachyon scalar field in a braneworld cosmology*, International Journal of Modern Physics A Vol. 33 No 34 (accepted 2018).
- Dimitrijevic, D. D., Bilic, N., Djordjevic, G. S. & Milosevic, M. *Tachyon scalar field in DBI and RSII cosmological context*, in SFIN year XXXI Series A: Conferences, A1, 159-170 (2018).
- Milošević, M., Bilić, N., Dimitrijević, D. D., Djordjević, G. S. & Stojanović, M. *Numerical Calculation of Hubble Hierarchy Parameters and Observational Parameters of Inflation*. in AIP Conference Proceedings (submitted 2018).
- Dimitrijevic, D. D., Dimitrijevic, M. A., Djordjevic, G. S. & Milosevic, M. *On Tachyonic Inflaton with Constraints*. in AIP Conference Proceedings (submitted 2018).
- Bilic, N., Dimitrijevic, D. D., Djordjevic, G. S., Milosevic, M. & Stojanovic, M. *Tachyon inflation in the holographic braneworld*. [Arxiv 1809.07216] (under consideration).
- Milosevic, M., Djordjevic, G. S. & Urumov, V. *Balkan Web of Physics*. in AIP Conference Proceedings (submitted 2018).

Učešće na projektima

- **Domaći projekti**
 - ON176021, MPNTR RS, 2011-2017: Vidljiva i nevidljiva materija u bliskim galaksijama: teorija i posmatranja
 - OI174020, MPNTR RS, 2011-2017: Geometrija i topologija mnogostrukosti, klasična mehanika i integrabilni dinamički sistemi
- **Međunarodni projekti**
 - ICTP projekat NT-03 “Classical and Quantum Challenges“ (rukovodilac)
 - CERN - SEENET-MTP PhD training program (ko-rukovodilac)
 - Cosmology and Astrophysics Network for Theoretical Advances and Training Actions (CANTATA), CA COST Action CA15117 (nacionalni predstavnik (zamenik) u menadžment komitetu, učesnik)
 - Croatian Science Foundation Research Project “Towards quantum gravity: noncommutative geometry, field theory and cosmology” (učesnik)

Naučno i nastavno angažovanje

- Gostujući istraživač – Departman za teorijsku fiziku, CERN-TH Ženeva
- Gostujući profesor – Odsek za fiziku, Prirodno-matematički fakultet, Banja Luka

Predavanja po pozivu na međunarodnim naučnim skupovima:

- *AdS/CFT and holography in an RSII cosmological context*
D.D. Dimitrijevic and G. S. Djordjevic,
On a safe road to quantum gravity with matter, Hvar, Croatia, September 11-14 2018
- *On inflation in the RSII and holographic braneworld*
G. S. Djordjevic
Gravity&String: New ideas for unsolved problems III (Zlatibor, Serbia, September 7-9 2018)
- *Inflation and Stringy Cosmology*
Conference of the Balkan Physical Union – BPU10 (26-30 August 2018, Sofia, Bulgaria)
- *Basics of Cosmology and Inflation in the “Gravitational-Wave Era”*
- *Tachyon fields and RSII inflationary models*
G. S. Djordjevic and D. D. Dimitrijevic
The Joint Meeting on Quantum Fields and Nonlinear Phenomena, Sinaia, Romania (18-22 April 2018)
- The 17th Pan-Hellenic Conference of the Hellenic Physical Society (EEF), Thessaloniki, Greece (15-18 March 2018)
- *Nonarchimedean and noncommutative aspects of the interior of the Schwarzschild black hole and signature change*
VI Conference on p-Adic Mathematical Physics and its Applications, Mexico City, Mexico, (26 October 2017)

Predavanja po pozivu:

- *Tachyons and reheating in a braneworld inflationary scenario.*
Department of Theoretical Physics, IFIN-HH Bucharest, Romania (23 April 2018)
- *Tachyon Fields, Inflation and DBI Lagrangians - Is that so complicated!?*
Department of Physics, Craiova University, Romania (17 April 2018)
- *Nobelova nagrada za fiziku za 2017. godinu: Kosmologija u eri gravitacionih talasa*
Prirodno-matematički fakultet, Banja Luka (23 Mart 2018)
- *Nobelova nagrada za otkriće gravitacionih talasa: da li će ih biti još?*
VI Međunarodna konferencija „O nastavi fizike u srednjim školama“ Aleksinac (9-11. mart 2018. godine)
- *Nelinearni vs linerni efekti u dinamiци tahiona - mehanika, teorija polja i inflatorna kosmologija*
Četvrti kolokvijum: Nelinearne nauke JANN, MI SANU, Beograd (22 februar 2018)
- *Tachyons and reheating in a braneworld inflationary scenario*
LMU Munich, Theoretical Particle Physics - Journal Club Seminar, Munich, Germany (12 December 2017)
- *Braneworld cosmology and tachyon inflation – RSII Numerical models*
University of New York at Buffalo, Physics Department Seminar, (31 October 2017)

Apstrakti na međunarodnim skupovima

- Djordjević, G. S, *Inflation and Stringy Cosmology.* in Book of Abstract Conference of the Balkan Physical Union – BPU10 (26-30 August 2018, Sofia, Bulgaria).

- Milošević, M., Bilić, N., Dimitrijević, D. D., Djordjević, G. S. & Stojanović, M. *Numerical Calculation of Hubble Hierarchy Parameters and Observational Parameters of Inflation*. in Book of Abstract Conference of the Balkan Physical Union – BPU10 (26-30 August 2018, Sofia, Bulgaria).
- Dimitrijević, M., Dimitrijević, D. D., Djordjević, G. S. & Milošević, M. *On Nonstandard Lagrangian as a Constrained System*. in Book of Abstract Conference of the Balkan Physical Union – BPU10 (26-30 August 2018, Sofia, Bulgaria)
- Milošević, M., Djordjevic, G. S. & Urumov, V. *Balkan Web of Physics*. in Book of Abstract Conference of the Balkan Physical Union – BPU10 (26-30 August 2018, Sofia, Bulgaria)
- Delibašić, D., Dimitrijević, D. D., & Djordjevic, G. S. *DBI and Locally-Equivalent Standard-Type Lagrangians in a FLRW spacetime*. in Book of Abstract Conference of the Balkan Physical Union – BPU10 (26-30 August 2018, Sofia, Bulgaria)
- Dimitrijević, D. D., Djordjević, G. S., Bilić N. & Milošević, M. *Tachyon inflation in the RSII framework*, The Book of Short Contributions and Extended Abstracts of the SEENET-MTP Balkan Workshop BW2018 Field Theory and the Early Universe, Niš, Serbia (10-14 June 2018).
- Dimitrijevic, D.D., Djordjevic, G.S., Dimitrijevic, M. & Milosevic M. *On Tachyonic Inflaton with Constraints*, Physics Conference TIM18, Timisoara, Romania (24-26 May 2018)

Ostale publikacije

- Djordjevic G. & Weigand T. *Training young researchers in South-East Europe*, CERN Courier Magazine: Vol. 58 No 3 (April 2018) p. 52
- Djordjevic G. & Delibašić D. *The SEENET-MTP marks the 15 years of its existence*, e-EPS News (June 2018)
- Djordjevic G. & Delibašić D. *PhD training programme for southeastern European students*, CERN Courier Magazine: Vol. 58 No 7 (September 2018) p. 72
- G. Djordjevic, D. Delibašić, M. Milošević & R. Constantinescu. *15 Years of the SEENET-MTP*, PMF Niš 1-16 (2018)

Uredništvo

- *The Book of Short Contributions and Extended Abstracts of the SEENET-MTP Balkan School and Workshop BW2018*, eds. G. S. Djordjevic, R. Constantinescu, D. D. Dimitrijević & M. Milošević, Faculty of Sciences and Mathematics, University of Niš and SEENET-MTP Network, Niš (2018).

Organizacija međunarodnih skupova

Kodirektor:

- BS 2018 (Niš, Serbia, 3-9 June 2018)
- BW2018 (Niš, Serbia, 10-14 June 2018)

Članstvo u komitetima međunarodnih konferencija

- BPU10 (Sofia, Bulgaria, 26-30 August 2018) - International Advisory Committee (*chairman*)
- TIM2018 Physics Conference (Timisoara, Romania, 24-26 May 2018) – Sci. Com. (*member*)
- 11-th Workshop QFNP-2018 (Sinaia, Romania, 18-22 April 2018) – Org. Com. (*member*)

Članstvo u međjunoradnim panelima

- COST (recenzent)

Recenzent u časopisima:

- International Journal of Modern Physics A
- Filomat

Članstva i funkcije u međunarodnim organizacijama

- *European Physical Society:*
- Council, member (2010 -)
- Committee of European Integration, member (2013-)
- Conference Committee, member (2016-)
- EPS Historic Sites Committee, member (2018-)
- *Balkan Physical Union:* president (2018-)
- *SEENET-MTP Network:* executive director (2018-)

Ostalo

- Ko-predsjednik Programskog komiteta trening programa doktorskih studija CERN – SEENET-MTP
- Učešće u realizaciji okružnog takmičenja iz fizike za učenike srednjih škola Nišavskog okruga
- Organizacija i realizacija naučno-popularnih predavanja
- Učešće u organizaciji CERN Masterclass-a 2018. godine u Nišu