

**TEME PENTRU LUCRĂRILE DE DISERTAȚIE, CICLUL DE STUDII UNIVERSITARE DE MASTERAT,
 DOMENIUL FIZICĂ, SPECIALIZAREA THEORETICAL PHYSICS/FIZICĂ TEORETICĂ, PROMOȚIA 2024
 DURATA STUDIILOR 2 ANI**

Nr. crt.	Titlul temei	Cadru didactic îndrumător
1	Consistent couplings between tensor gauge fields of degrees two and three	Prof. dr. Constantin BIZDADEA
2	The Freedman--Townsend model -- a classical BRST approach	
3	Consistent couplings between a Pauli-Fierz field and a Dirac field	
4	Quantization of second-class models without extravariabes	
5	Consistent interactions "vector fields--matter fields"	
6	Consistent interactions "BF models--matter fields"	
7	Relativistic dynamics	Prof. dr. Radu-Dan CONSTANTINESCU
8	Multipolar approximations in electrostatics	
9	Multipolar approximations in magnetostatics	
10	Electromagnetic radiation - production and propagation	
11	Nonlinear phenomena in nature	
12	Physical models for the study of neural flows	Prof. dr. Solange-Odile SALIU
13	Free topological BF theories in an arbitrary spacetime dimension: Hamiltonian and Lagrangian approaches	
14	A special interacting topological BF model in D=8: partial Abelianization of its first-class constraints	
15	Full gauge approach to reducible first-class dynamical systems without elimination of second-class constraints	Prof. dr. Eugen-Mihăiță CIOROIANU
16	Background field method	
17	Scattering theory in the path-integral context	
18	Gravitational waves	
19	Singularities of spherically-symmetric gravitational fields;	
20	Division algebras	

Temele de disertație au fost avizate în Ședința Consiliului Facultății de Științe din data de xy.06.2023

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21	Cartan classification of simple Lie algebras	Conf. dr. Iulian PETRIȘOR
22	Collisional transport in plasma	
23	MHD description of plasma	
24	Radiation processes in plasmas	
25	Instabilities in inhomogeneous plasma	
26	Theory of fluctuations in plasma	
27	Kinetic waves and instabilities in uniform plasma	
28	Lagrangian formulation of the RLC circuits	Conf. dr. Silviu-Constantin SĂRARU
29	The study of the reflection of a point object in an arbitrary curved mirror	
30	The BFFT approach of the particle on a torus	
31	About Ostrogradsky's construction of a Hamiltonian formalism for nondegenerate higher derivative Lagrangians	
32	Symmetric energy-momentum tensor in Maxwell and Proca theories obtained using only Noether's theorem	
33	The influence of laser pulse duration on biological tissue differentiation via LIBS	
34	Asymptotic freedom in QCD	Lect. dr. Iulian NEGRU
35	Some aspects of chiral symmetry in QFT	
36	Classic vs. relativistic derivations of Friedmann equations	

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