

**TEME PENTRU LUCRĂRILE DE DISERTAȚIE, CICLUL DE STUDII UNIVERSITARE DE MASTERAT,
 DOMENIUL FIZICĂ, SPECIALIZAREA THEORETICAL PHYSICS, PROMOȚIA 2020
 DURATA STUDIILOR 2 ANI**

Nr. crt.	Titlul temei	Cadru didactic îndrumător
1.	Bioelectric function of the nerve cell	Prof. dr. Radu Dan CONSTANTINESCU
2.	Subthreshold membrane phenomena in cells	
3.	Electric activity of the heart	
4.	Theoretical methods in Bioelectromagnetism	
5.	Applications of Maxwell's equations in Bioelectromagnetism	
6.	Gauge-invariant massive models with an Abelian gauge field and a set of scalar fields	Prof. dr. Constantin BIZDADEA
7.	Cohomological aspects in spin-two field theory	
8.	Scalar electrodynamics: a BRST approach	
9.	Equivalence between the Lagrangian and the Hamiltonian BRST formalisms for spinor electrodynamics	
10.	Various Green functions for free real scalar field	Prof. dr. Eugen-Mihaiță CIOROIANU
11.	Scattering amplitudes for $\lambda\phi^4$ model	
12.	Einstein equations: Schwarzschild solution	
13.	Einstein equations: Tolman solution	
14.	Einstein equation: Kerr solution	Conf. dr. Gheorghe Marian NEGREA
15.	The influence of the diamagnetic Kubo number on zonal flow generation in weak electrostatic	
16.	About the influence of the anisotropic electrostatic turbulence on zonal flow	
17.	Drift-wave turbulence and zonal flow generation	
18.	Electrostatic turbulence and radial diffusion	
19.	Memory effects in plasma transport	Conf. dr. Silviu-Constantin SĂRARU
20.	Canonical analysis of noncommutative Proca model	
21.	Maxwell-Chern-Simons model. Hamiltonian reduction	

Temele de disertație au fost avizate în Ședința Consiliului Facultății de Științe din data de 06.11.2018

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22.	Maxwell-Chern-Simons-Proca model. Hamiltonian reduction	Lect. dr. Nicolae Ion POMETESCU
23.	Branched Hamiltonians	
24.	Newcomb equation for internal and external modes in a tokamak plasma	
25.	Ballooning instabilities in tokamak plasma	
26.	Kink instabilities in magnetic confined plasmas	
27.	Plasma-wall interactions in magnetic confined plasmas	Lect. dr. Iulian PETRIȘOR
28.	Principal component analysis – Multidisciplinary applications	
29.	Generalized principal component analysis	
30.	Transport equations for toroidally rotating plasma	
31.	Transport simulation of ITB	