

**ANNALS OF
THE UNIVERSITY OF
CRAIOVA**



**PHYSICS
AUC**



VOLUME 15 (part II)

■
2005



CONTENTS

PROFESSOR OLIVIU GHERMAN ON HIS 75-TH ANNIVERSARY

L. IONESCU, In 2005, Physics enlightens the World, Romania and Craiova	1- 5
F. S. ULIU, The correspondence between mathematical entities and physical reality (Werner Heisenberg and Twentieth Century Physics)	6-13
F.S.ULIU, About the filling with electrons of the sub-shells in multi-elecion atoms.....	14-20
I. PETRE, A. ROTARU, "Available" quantities in thermodynamics.....	21-25
A. HARABOR, N. A. HARABOR, Plasma frequency and pressure effects in bulk YBCO-123 superconductor system	26-31
N.A.HARABOR, J.B.ROUFFET, G.ZISSIS, Two temperatures argon plasma model for thermal conductivities.....	32-37
N.A.HARABOR, J.B.ROUFFET, G.ZISSIS, M.CRISTEA, Modeling dynamic viscosity of Ar plasma in a two-temperature regime.....	38-42
E.M. CIOROIANU, S.C.SARARU, Global symmetries, conserved currents and couplings for a topological BF model in D=5.....	43-57
I.PETRISOR, M.NEGREA, Electron diffusion in a sheared unperturbed magnetic field and a relatively high electrostatic turbulence.....	58-66
E. MORINTALE, Measuring the characteristics of a solar cell.....	67-73
B. WEYSSOW , GY. STEINBRECHER, Short range equilibrium models and first exit time statistics of self-similar processes.....	74-78
N. POMETESCU, Poloidal particle flux in a turbulent non-ohmic plasma in leading order approximation for passing particles.....	79-96
M. ROSU, Conformal radiation therapy planning in the presence of breathing motion— current trends.....	97-112
L. SALIU, Relaxation modes of linear kinetic balance equations in weak fields.....	113-117
L. SALIU, Contractions, expansions, and asymptotic behaviour of representation operators	118-122
P. ROTARU, Ș. I. BLEJOIU, M. STANCIU, E. MORINTALE, Morphology and structure of the $\text{Cu}^0/\text{CuO-ZnO-Al}_2\text{O}_3$ system. I.Composition and texture of the system.....	123-128
P. ROTARU, Morphology and structure of the $\text{Cu}^0/\text{CuO-ZnO-Al}_2\text{O}_3$ system II. Thermal analysis of the system.....	129-134
P. ROTARU, Morphology and structure of the $\text{Cu}^0/\text{CuO-ZnO-Al}_2\text{O}_3$ system III. Role held by the thermal treatment in modeling the crystalline structure and the phase composition of the system.....	135-140
P. ROTARU, Morphology and structure of the $\text{Cu}^0/\text{CuO-ZnO-Al}_2\text{O}_3$ system IV. Determination of the effective surface area of the metallic copper.....	141-144