

**PROGRAM IDEI\_PROIECTE DE CERCETARE EXPLORATORIE\_COMPETITIA 2011**  
**FIZICA**

NR. CRT.	COD PROIECT	NUME DIRECTOR	PRENUME DIRECTOR	INSTITUTIE	TITLU	BUGET APROBAT AN 2013
1	PN-II-ID-PCE-2011-3-0583	ANDREICA	Daniel	UNIVERSITATEA BABES-BOLYAI	Investigation of the phase diagram of selected compounds by muSR and muSR under pressure.	225,745.43
2	PN-II-ID-PCE-2011-3-0960	Anghel	Dragos-Victor	Institutul National de C&D pentru fizica si ingineria nucleara -- Horia Hulubei	Advanced quantum and statistical methods for mesoscopic systems, with applications in the construction of ultra-sensitive devices	232,292.04
3	PN-II-ID-PCE-2011-3-0450	Avrigeanu	Marilena	Institutul National de Cercetare Dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei (IFIN-HH)	Deuteron-induced reactions at low and medium energies: Consistent direct and statistical model analysis	223,487.97
4	PN-II-ID-PCE-2011-3-0619	Baltog	Ioan	Institutul National de Cercetare Dezvoltare pentru Fizica Materialelor	Nonlinear optical processes manifesting as Anderson localization of light in mesoscopic materials	180,596.34
5	PN-II-ID-PCE-2011-3-0972	Baran	Virgil	Universitatea din Bucuresti	Collective dynamics, dissipation and fragmentation in mesoscopic quantum systems	208,814.52
6	PN-II-ID-PCE-2011-3-1007	Barna	Valentin	Universitatea din Bucuresti	New Metamaterial Classes for Applications in Optics and Photonics	191,883.61
7	PN-II-ID-PCE-2011-3-0370	Borcea	Catalin	Institutul National de C&D pentru Fizica si Inginerie Nucleara "Horia Hulubei"	Near barrier behaviour of fusion cross section with loosely bound projectiles or projectiles with cluster structure	213,329.43
8	PN-II-ID-PCE-2011-3-0691	Brancus	Iliana	Institutul National de Cercetare si Dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei (IFIN-HH)	The Nature of Cosmic Rays as Observed by Advanced Detectors	208,588.77
9	PN-II-ID-PCE-2011-3-0140	Bucurescu	Dorel	Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara "Horia Hulubei"	Spectroscopy of some less known atomic nuclei	224,503.83
10	PN-II-ID-PCE-2011-3-0264	Caprini	Irinel	Institutul National de Cercetare Dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei, IFIN-HH	Analyticity as a tool for precision predictions in particle physics	225,519.68
11	PN-II-ID-PCE-2011-3-0137	Carstea	Adrian Stefan	Institutul de cercetare dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei	Singularities and Integrability of discrete and ultradiscrete dynamical systems	199,784.70
12	PN-II-ID-PCE-2011-3-0427	Carstoiu	Florin	institutul national de cercetare-dezvoltare pentru fizica si inginerie nucleara Horia Hulubei (IFIN-HH)	EXOTIC NUCLEAR MATTER IN THE EXPLOSIVE STAGE OF SUPERNOVAE	210,620.48
13	PN-II-ID-PCE-2011-3-0801	Dascalu	Traian	Institutul National de Cercetare Dezvoltare pentru Fizica Laserilor, Plasmei si Radiatiei	Ultraintense THz wave generated in air-plasma by short-pulse high-intensity laser beam	180,596.34

**PROGRAM IDEI\_PROIECTE DE CERCETARE EXPLORATORIE\_COMPETITIA 2011**  
**FIZICA**

NR. CRT.	COD PROIECT	NUME DIRECTOR	PRENUME DIRECTOR	INSTITUTIE	TITLU	BUGET APROBAT AN 2013
14	PN-II-ID-PCE-2011-3-0092	Delion	Doru-Sabin	Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara "Horia Hulubei"	N-body correlations in exotic nuclear systems	230,260.33
15	PN-II-ID-PCE-2011-3-0224	Dragoman	Daniela	Universitatea din Bucuresti	Analogies between electron transport in nanostructures and light propagation	260,679.53
16	PN-II-ID-PCE-2011-3-0958	Ganciu-Petcu	Mihai	Institutul National de Cercetare Dezvoltare pentru Fizica Laserilor, Plasmei si Radiatiei	Electron acceleration and polaritonic transport by laser-plasma interaction in new capillary configuration	149,556.34
17	PN-II-ID-PCE-2011-3-0607	Ghilencea	Dumitru	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU FIZICA SI INGINERIE NUCLEARĂ HORIA HULUBEI IFIN-HH DIN BUCURESTI	An effective field theory approach to new Physics Beyond the Standard Model in the LHC era.	157,836.69
18	PN-II-ID-PCE-2011-3-0978	Haiduc	Maria	Institutul de Stiinte Spatiale - INCDFLPR	Study of diffractive processes in interactions of 1-4 GeV ions with nuclear emulsion and applications in astrophysics	208,250.15
19	PN-II-ID-PCE-2011-3-0203	JIPA	ALEXANDRU	Universitatea din Bucuresti, Facultatea de Fizica	Investigation of the quark-gluon plasma formation and the freeze-out process in relativistic nucleus-nucleus and proton-proton collisions	220,653.96
20	PN-II-ID-PCE-2011-3-0425	Kuncser	Victor Eugen	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU FIZICA MATERIALELOR	Advanced approach of magnetic relaxation	225,745.43
21	PN-II-ID-PCE-2011-3-0522	Lungu	Petrica Cristian	Institutul National pentru Fizica Laserilor, Plasmei si Radiatiei	Giga and tera-watt laser interaction with carbon, tungsten and beryllium films	239,290.15
22	PN-II-ID-PCE-2011-3-0822	Lupei	Voicu	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU FIZICA LASERILOR, PLASMEI SI RADIATIEI	Quantum conversion processes of excitation in photon sources of prospect for sustainable energy production	221,230.52
23	PN-II-ID-PCE-2011-3-1013	Marghitu	Octav	Institutul National de Fizica Laserilor Plasmei si Radiatiei - Institutul de Stiinte Spatiale	Magnetosphere-Ionosphere Coupling in the Auroral Region (M-ICAR)	158,021.80
24	PN-II-ID-PCE-2011-3-0367	Marginean	Nicolae Marius	Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara	In-beam fast timing studies of the structure of neutron-rich nuclei in the vicinity of shell closures	225,745.43
25	PN-II-ID-PCE-2011-3-1012	Marian	Paulina Elisabeta	Universitatea din Bucuresti	Quantum correlations in continuous-variable settings	191,883.61
26	PN-II-ID-PCE-2011-3-1028	Miclea	Corneliu Florin	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU FIZICA MATERIALELOR	Interplay between superconductivity and magnetism and superconducting order parameter symmetry in pnictide superconductors.	225,745.43

**PROGRAM IDEI\_PROIECTE DE CERCETARE EXPLORATORIE\_COMPETITIA 2011**  
**FIZICA**

NR. CRT.	COD PROIECT	NUME DIRECTOR	PRENUME DIRECTOR	INSTITUTIE	TITLU	BUGET APROBAT AN 2013
27	PN-II-ID-PCE-2011-3-0083	mihalache	dumitru	Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei (IFIN-HH)	Fundamental studies in physics of quantum information and in nonlinear optics of few-cycle solitons	211,974.95
28	PN-II-ID-PCE-2011-3-0068	Mirea	Mihail	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU FIZICA SI INGINERIE NUCLEARA HORIA HULUBEI	STRONG DISSIPATIVE REGIME IN THE QUANTUM MECHANICS OF NUCLEAR REACTIONS	217,889.03
29	PN-II-ID-PCE-2011-3-0554	Misicu	Serban	Institutul de Fizica si Inginerie Nucleara-Horia Hulubei	Heavy Ion Optical Potentials for Exotic Nuclei in Astrophysical Nuclear Reactions	189,626.16
30	PN-II-ID-PCE-2011-3-0091	Moldoveanu	Valeriu	Institutul National de Cercetare Dezvoltare pentru Fizica Materialelor	Exciton dynamics and time-dependent transport in optically active quantum dots	199,558.96
31	PN-II-ID-PCE-2011-3-0749	Muresan	Raluca-Anca	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU FIZICA SI INGINERIE NUCLEARĂ „HORIA HULUBEI „	Studies of flavor production mechanisms in the pp interaction	255,255.77
32	PN-II-ID-PCE-2011-3-0192	Nagy	Ladislau	Universitatea Babes-Bolyai	Interactions of atoms and molecules with laser pulses and charged particles	208,814.52
33	PN-II-ID-PCE-2011-3-0348	Neda	Zoltan	UNIVERSITATEA BABES-BOLYAI	Emergent synchronization in complex systems	158,021.80
34	PN-II-ID-PCE-2011-3-0194	Nistor	Leona Cristina	Institutul National de Cercetare Dezvoltare pentru Fizica Materialelor	MODULATING THE PROPERTIES OF SEMICONDUCTING QUANTUM DOTS WITH LATTICE DEFECTS	225,745.43
35	PN-II-ID-PCE-2011-3-0363	PAVEL	Nicolae	Institutul National de Cercetare-Dezvoltare pentru Fizica Laserilor, Plasmei si Radiatiei	Waveguide Laser Devices Realized by Direct Femtosecond Laser Writing Technique	229,808.84
36	PN-II-ID-PCE-2011-3-0153	Petrovici	Alexandrina	Institutul National de C&D pentru Fizica si Inginerie Nucleara Horia Hulubei	Advanced Studies on Structure and Dynamics of Exotic Nuclei	226,196.92
37	PN-II-ID-PCE-2011-3-0368	Petrovici	Mihai	Institutul National de C&D pentru Fizica si Inginerie Nucleara Horia Hulubei	Search for collective type phenomena in p+p collisions at LHC energies	177,688.74
38	PN-II-ID-PCE-2011-3-0287	Pintilie	Ioana	Institutul National de Cercetare-Dezvoltare pentru Fizica Materialelor	Comprehensive Investigation on Bulk Radiation Damage in Defect Engineered Silicon - from Point Defects to Clusters	201,364.92
39	PN-II-ID-PCE-2011-3-0049	Poenariu-Gherghescu	Radu Alexandru	Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei	Binary nuclear systems	225,745.43

**PROGRAM IDEI\_PROIECTE DE CERCETARE EXPLORATORIE\_COMPETITIA 2011**  
**FIZICA**

NR. CRT.	COD PROIECT	NUME DIRECTOR	PRENUME DIRECTOR	INSTITUTIE	TITLU	BUGET APROBAT AN 2013
40	PN-II-ID-PCE-2011-3-0050	Poenaru	Dorin N.	Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara "Horia Hulubei" (IFIN-HH)	Decay modes of superheavy nuclei	172,695.25
41	PN-II-ID-PCE-2011-3-0620	Polosan	Silviu	Institutul National de Cercetare-Dezvoltare pentru Fizica Materialelor	DUAL EMITTERS FOR DISPLAYS BASED ON OLED COMPOUNDS	225,745.43
42	PN-II-ID-PCE-2011-3-0665	Popa	Vlad	Institutul de Stiinte Spatiale	Exotic super-massive particles in Neutrino Telescopes	224,842.44
43	PN-II-ID-PCE-2011-3-0204	Popa	Alexandru	INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU FIZICA LASERILOR, PLASMEI SI RADIATIEI	Current challenges in modeling the generation of hard radiations by relativistic interactions between very intense laser beams and electrons or atoms	39,110.39
44	PN-II-ID-PCE-2011-3-0082	Popa	Nicolae	Institutul National de Cercetare Dezvoltare pentru Fizica Materialelor	MACRO – STRESS AND MICRO – STRESS IN RIETVELD REFINEMENT: NEW MODELS AND APPROACHES	108,357.80
45	PN-II-ID-PCE-2011-3-0042	Raduta	Apolodor Aristotel	Institutul de Fizica si Inginerie Nucleara, IFIN-HH	Topical research on nuclear structure, phase transitions and double beta decay. Acronym : TRNSPTDBD	225,745.43
46	PN-II-ID-PCE-2011-3-0070	SAHAGIA	MARIA	Institutul National de C&D pentru Fizica si Inginerie Nucleara Horia Hulubei, IFIN-HH	ABSOLUTE STANDARDIZATION AND STUDY OF THE DECAY PARAMETERS FOR POSITRON EMITTERS USED IN PET SYSTEMS. ASSURANCE OF THE METROLOGICAL TRACEABILITY	237,032.70
47	PN-II-ID-PCE-2011-3-0596	Sandulescu	Neculai	Institutul National de Fizica si Inginerie Nucleara, Horia Hulubei, IFIN-HH	Proton-neutron pairing and alpha-like quartet condensation in superfluid nuclei	237,032.70
48	PN-II-ID-PCE-2011-3-0516	Sofonea	Victor	Academia Romana - Filiala Timisoara	Kinetic models for micro-scale transport phenomena and structure formation in complex fluids: implementation on GPU-based parallel computing systems	180,596.34
49	PN-II-ID-PCE-2011-3-0794	Stancu	Alexandru	UNIVERSITATEA ALEXANDRU IOAN CUZA IASI	Hysteresis and switching in exotic nano and molecular magnetic structures (EXOTIC)	225,745.43
50	PN-II-ID-PCE-2011-3-0487	STANOIU	MIHAI	INSTITUTUL NATIONAL DE C&D PENTRU FIZICA SI INGINERIE NUCLEARA HORIA HULUBEI	Study of z=28 shell gap by the tensor force in neutron-rich isotopes	225,745.43
51	PN-II-ID-PCE-2011-3-0318	Stoica	Sabin	Fundatia Horia Hulubei	Development of models and methods for computation of the nuclear matrix elements involved in the study of double-beta decay	221,117.64
52	PN-II-ID-PCE-2011-3-0789	Vizman	Daniel	Universitatea de Vest din Timisoara	Control of melt flow in a directional solidification configuration using an electromagnetic field	79,010.90
TOTAL						10,571,131.81