

Theoretical approach, simulation and modeling of photo-excited processes

P01 Calculation of ionization probability of Nitrogen in gas jets for the Laser Plasma Wakefield Acceleration experiments at ELI-NP

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P02 Compositional analyses of aerosols via laser-induced breakdown spectroscopy in helium

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P03 Laser polarization effects in laser-assisted electron-hydrogen inelastic collisions

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P04 Interaction of femtosecond doughnut-shaped laser pulses with glasses

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P05 Modeling of multipulse ultrashort laser irradiation of fused silica: Accumulation effects

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P06 Evanescent Optical Trapping Method for Localization and Decontamination of Viruses and Microorganisms

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P07 Production and photo-excitation of nuclear isomers at ELI-NP

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P08 Material analyses via calibration-free laser-induced breakdown spectroscopy: influence of plasma nonuniformity on measurement accuracy

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P14 Laser Generation of Cavitation Micro- and Nanobubbles near Contact Particle Lens Array: A Prospective to New Optoacoustical Devices

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P15 Plasmonic particle mediated laser alteration of material

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P16 **Ultrashort laser beam focusing into bulk glass: Modeling based on Maxwell's and non-linear Schrödinger equations and effects of boundary condition**

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P17 **Toward modeling of interaction of dichromatic laser pulses with transparent dielectrics**

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P18 **Laser-induced damage thresholds of gold, silver and their alloys in air and water**

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P20 **Time-resolved electrical investigations of transient plasmas generated by femtosecond laser ablation of various metallic targets**

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P21 **Selective carbonized patterning on the surface of polyimide film using a 355nm UV laser**

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P22 **High Power Laser Irradiation of Pure and Mixed Be/C/W Films Prepared by TVA Method**

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P23 **Nonlinear optical studies on 1,2,3,4,5,6,7,8-octahydro-9-hydroxiacridine-10-oxide thin films deposited by matrix-assisted**

pulsed laser evaporation (MAPLE)

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P24 **9-(2-Furyl)-1,2,3,4,5,6,7,8-octahydro-10-oxide thin films grown by matrix-assisted pulsed laser evaporation for nonlinear optical applications**

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P25 **Nonlinear optical properties studied on thin films of 2-(2,4-dibromophenyl)-1H-benzo[d]imidazole by matrix-assisted pulsed laser (MAPLE) evaporation**

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P26 **Analytical expansion of vector complex source vortex beams into vector spherical harmonics and their interaction with a nanoparticle**
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P27 **Modeling of Photoinduced Nanoparticle Growth in Inhomogeneous Structured Polymers**

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Laser Imaging

P28 **Combined spectral – domain optical coherence tomography and hyperspectral imaging for tissue analysis: preliminary results**

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P29 **Quantitative phase imaging of live cells**

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P30 **Dual Imaging System for Tumor Assessment: Diffuse Optical Tomography and Hyperspectral Fluorescence**

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P31 **Refractive Index Imaging with Nanoscale Resolution Enabled by Laser Near-Field Dipole Excitation**

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Dynamics and diagnostics of photo-excited processes

P32 **X-ray and pulsed UV to NIR optical excitation of luminescence in doped nanoparticles for bioimaging and spectral converters**

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P33 **Analysis of thin films for micro-electronics via laser-induced breakdown spectroscopy**

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P34 **Compositional analyses of steel via laser-induced breakdown spectroscopy**

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P35 **Quantitative phase imaging of neuronal networks with programmable illumination**

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P36 **Experimental set-up for liquid phase monitoring during laser processing of metals**

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P37 **CW versus pulsed laser excited emission properties of (Yb³⁺) Ho³⁺ (co-) doped CeO₂ nanoparticles**

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P38 **Plasma generated during underwater laser shock processing**

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P39 **Investigation of the effect of laser parameters on the target, plume and plasma behavior during and after laser-solid interaction**

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P40 **Laser induced break down spectroscopy on soil samples**

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Photo-excited chemical processes

P41 **Photosensitized cleavage of some olefins as potential linkers to be used in drug delivery**

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P42 **2D Direct laser writing of polymer graphene composites**

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P43 **Susceptibility of bacteria to photo-chemically generated agents starting from phenothiazine derivatives**

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Photo/laser-induced desorption from surfaces

P44 **Ultrafast Epitaxial Growth Kinetics in Pulsed Laser Annealed Solution-Derived Functional Oxide Thin Films**

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Resonant and non-resonant processes in photo/laser-induced materials processing

P45 **Laser-Driven Broadband Fibre Source with Spectral Compensation using a High-Voltage Pulse LED**

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P46 **Spectroscopic investigations of novel pharmaceuticals: stability and laser beam resonant interaction**

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Surface nanostructuring and nanoripple formation

P47 **Microscopical and Raman investigations of periodical surface structures fabricated by picosecond visible laser irradiation of carbon thin films**

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P48 **Ultrafast time-resolved pump-probe investigation of LIPSS formation by multiple femtosecond laser pulses**

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P49 **Inducing subwavelength periodic nanostructures on multilayer NiPd thin film by low-fluence femtosecond laser beam**

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P50 **Fabrication of Ag nanoparticle array on different substrates for application in SERS**

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P51 **Femtosecond laser induced surface structures on silicon: effects of the ambient pressure**

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P52 **Improving Surface Density of Laser Nanostructuring with Contact Particle Lens Arrays: Two-Color Beams, Resonant Focusing, and Nonspherical Particles**

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P53 **Self-organization of single-crystals as ripple patterns through laser ablation of ionic salts solutions**

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3D additive manufacturing

P54 **Development of sputter-less selective laser melting in vacuum for 3D fabrication of titanium alloy**

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P55 **Hybrid femtosecond laser processing of biomimetic architectures with lab-on-a-chip devices for cancer cell study**

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P56 **Femtosecond laser-induced reductive sintering to fabricate Ni-based alloy micropatterns**

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Manipulated/shaped beam processing

P57 **Optical arrangement of gold nanoparticles by array of Bessel-like beams**

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Ultrahigh-power laser applications

P58 **Alignment laser procedure and beam wavefront optimization using adaptive optics loop**

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P59 **Dose calculations in cell monolayers from proton beams generated by femtosecond lasers**

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P60 **Dielectric thin films obtained by laser-plasma methods for high power laser optics**

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P61 **Solid Target Remote Manipulator System for High Power (PW) Laser Experiments**

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P62 **Experimental Setup for Detection of Accelerated Particles Generated by High Power (PW) Laser-Solid Target Interaction**

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Interactions with organic and biomaterials and applications including MALDI and laser microprobe mass analysis

P63 ***In vitro* biological performance of multifunctional composite coatings**

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P64 **Femtosecond laser irradiation to fluorescent molecules-loaded poly(lactic-co-glycolic acid)**

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Lasers in nanobiomedicine

P65 **Isoflavonoid Thin Films Fabricated By MAPLE For Improved Resistance of Biomedical Surfaces to Microbial Colonization**

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P66 **Surface modification on medical grade PDMS by fs-laser irradiation**

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P67 **Mesenchymal stem cells osteogenic fate on excimer lasers designed bone pits topographies**

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P68 **Photophysics of single wall carbon nanotubes covalently functionalised with porphyrin photosensitizers**

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P69 **Antimicrobial calopocarpin-polyvinylpyrrolidone composite coatings fabricated by MAPLE**

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Photon-sources and laser systems for photo excited processes

P70 **Fluorescence emission structure of a side-pumped Rh6G dye-doped micro-droplet**

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Photo-catalysis

P71 **Titanium oxide / graphene oxide spin coated composite material for photocatalytic applications**

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P72 **Photocatalytic degradation of methylene blue by a combination of TiO₂ and charcoal**

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