

News

Our new paper in optics communication

Posted: June 20, 2018

Congratulations for the publication of paper” Highly Sensitive Biochemical sensor based on Nanostructured Plasmonic Interferometer” , by Khajemiri , S. M. Hamidi , Om. K. Suwal. We propose a novel plasmonic interferometric sensor with a slit and surrounding rectangular grooves array on an optically thick gold film for biochemical sensing. We did finite-difference time-domain (FDTD) simulation ...

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Surface Plasmon-Mediated Nanoscale Localization of Laser-Driven sub-Terahertz Spin Dynamics in Magnetic Dielectrics

Posted: June 20, 2018

We report spatial localization of the effective magnetic field generated via the inverse Faraday effect employing surface plasmon polaritons (SPPs) at Au/garnet interface. Analyzing both numerically and analytically the electric field of the SPPs at this interface, we corroborate our study with a proof-of-concept experiment showing efficient SPPdriven excitation of coherent spin precession with 0.41 ...

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[Localization of Laser-Driven sub-Terahertz Spin Dynamics in Magnetic Dielectrics](#)

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[**Targeting strategy may open door to better cancer drug delivery**](#)

Posted: June 12, 2018

Bioengineers may be able to use the unique mechanical properties of diseased cells, such as metastatic cancer cells, to help improve delivery of drug treatments to the targeted cells, according to a team of researchers at Penn State. Many labs around the world are developing nanoparticle-based, drug delivery systems to selectively target tumors. They rely on a ...

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[**OPSI; Optics and Photonics Society Of Iran Newsletter**](#)

Posted: May 20, 2018

Vol 3-21 March-April 2018 of Optics and Photonics Society Of Iran Newsletter.

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[**Weighing Biomolecules with Light**](#)

Posted: May 15, 2018

From imaging to mass measurement In the authors' interferometric detection scheme, iSCAMS, the scattering signal scales with the polarizability, which is a function of

the refractive index and proportional to the particle volume. That allows users to infer the mass of proteins from the scattering signal. In existing, fluorescence-based techniques for looking at biomolecular ...

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[Our New Paper in Optical Materials](#)

Posted: May 4, 2018

Congratulations for the publication of paper "Exciton-Plasmon Coupling in Two-dimensional plexitonic nano Grating", in journal of optical materials by N. Asgari and S. M. Hamidi.

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[Opto-thermoelectric nanotweezers](#)

Posted: April 12, 2018

Fig. 1 | Working principle of OTENT. a, Surface charge modification of a metal nanoparticle by CTAC adsorption. b, Formation of CTAC micelles. c, Schematic view of a Cl⁻ ion. d, Dispersion of a single metal particle and multiple ions in the solution without optical heating. e, Thermophoretic migration of the ions under optical heating. f, Steady ...

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[Our new paper in Optical and Quantum electronics](#)

Posted: March 29, 2018

Congratulations for the publication of paper " Demonstration of tunable complex refractive index of graphene covered one

dimensional photonic crystals”, in journal of optical and quantum electronics, by S. M. Hamidi, M. Mahboubi, S. M. Mohseni, B. Azizi, A. Ghaderi, S. Javadi. .

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[Scientists create diodes made of light](#)

Posted: March 25, 2018

Photonics researchers at the National Physical Laboratory (NPL) have achieved the extra-ordinary by creating a diode consisting of light that can be used, for the first time, in miniaturised photonic circuits, as published in Optica. Dr. Pascal Del’Haye and his team at NPL have created an optical version of a diode that transmits light in ...

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[Piezomagnetic material changes magnetic properties when stretched](#)

Posted: March 25, 2018

Piezoelectric materials, which generate an electric current when compressed or stretched, are familiar and widely used: think of lighters that spark when you press a switch, but also microphones, sensors, motors and all kinds of other devices. Now a group of physicists has found a material with a similar property, but for magnetism. This “piezomagnetic” ...

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