Richiesta di Nulla Osta alla associazione di Sergio De Nicola all’ INFN Sez-di Napoli per l’anno 2017

Vi chiedo di considerare la richiesta in oggetto.

S De Nicola (primo ricercatore –UoS CNR-SPIN) collabora da tempo con il GRUPPO DI FISICA DEI PLASMI E APPLICAZIONI INTERDISCIPLINARI-dell INFN Sez. di Napoli ( resp locale Prof. R Fedele) nell’ambito delle tematiche progettuali e delle attività di ricerca di seguito elencate:

  R&D of the plasma-based electron/positron accelerator, built at INFN within the SPARC project. This effort is based on the FLAME femtosecond Ti:Sa laser with 10 Hz rep. rate and the power 220 TW with intensities $10^{20} - 10^{22}$ W cm$^{-2}$, coupled with the 10 Hz, 150 MeV SPARC linear accelerator.

  Aim: to provide the laser-driven ion acceleration with the *Target Normal Sheath Acceleration* mechanism. A dense electron cloud at a distance of a few mm from the target rear side is created. A quasi-static electric field is created. Its field-ionizes the atoms on the target rear surface and accelerates them.

- **COMB (Coherent plasma Oscillations excitation by Multiple electron Bunches)**. National collaborations: E Chiadroni, nat. resp.; R Fedele, loc. resp.
  Aim: acceleration of high brightness electron beams by resonant plasma wakefields. A train of driver bunches, separated by a plasma wavelength resonantly excites a plasma wake, which accelerates a trailing witness bunch injected at the accelerating phase.
Lista delle pubblicazioni di Sergio De Nicola relative alla collaborazione con INFN
Sez. di Napoli
Periodo: 2013-2016

(2016)


Published articles (2013 - 2015)


R Fedele, T Akhter, D Jovanović, S De Nicola, A Mannan, Transverse evolution of a long relativistic electron beam governed by the Vlasov-Poisson-type pair of equations within the plasma wake field dynamics in the local regime, European Physical Journal D 68 (7), 1-8, (2014)


R Fedele, MA Man’ko, VI Man’ko, S De Nicola, The role of the Wigner function in charged-particle beam transport, EPJ Web of Conferences 78, 04003 (2014)


PRESENTAZIONI ORALI A CONFERENZE NAZIONALI E INTERNAZIONALI

2013


2014


2015


R Fedele, T. Akhter, S. De Nicola, F. Massimo, A. Marocchino, Mauro Migliorati, L. Palumbo, The concept of coupling impedance in the plasma wake field excitation as a new tool for describing the self-consistent interaction of the driving beam with the surrounding plasma, FISMAT 2015, 28 September - 02 October, 2015, Palermo, Italy

R Fedele, T. Akhter, S. De Nicola, F. Massimo, A. Marocchino, Mauro Migliorati, L. Palumbo, The concept of coupling impedance in the plasma wake field excitation as a new tool for describing the self-consistent interaction of the driving beam with the surrounding plasma, 101° Congresso Nazionale SIF, 21-25 September, 2015, Roma, Italy

D Jovanović, R Fedele, M Belić, S De Nicola, Semi-analytical fluid study of the propagation of an ultrastrong femtosecond laser pulse in a plasma with ultrarelativistic electron jitter, 101° Congresso Nazionale SIF, 21-25 September, 2015, Roma, Italy


PRESENTAZIONI POSTER A CONFERENZE NAZIONALI E INTERNAZIONALI

2013


2014


R. Fedele, S. De Nicola, T. Akhter, A. Mannan, F. Tanjia, and D. Jovanović, Quantum-like aspects of the charged-particle beam self-modulation in the presence of a laser wake field excitation, School on Non-linear Dynamics, Dynamical Transitions and Instabilities in Classical and Quantum Systems, Trieste, Italy, 14 July - 1 August 2014


2015


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