

## **10 PW Laser driven electron acceleration and neutron production at ELI-NP**

We report the recent acceleration of multi GeV electrons with laser pulses of ultrashort and high power (1 - 10 PW) focused in gas jets with circular and rectangular profiles. The energy of the electrons was measured at each laser pulse with an electron spectrometer made of a 80 cm long dipole magnet and three scintillating screens. We measured the energy spectrum of the neutrons generated in the photonuclear reactions induced by high energy bremsstrahlung radiation in Iron nuclei of the dipole magnet and its yoke. The energy spectrum of the electrons and their electric charge was measured at each laser shot.

**Primary author:** BALASCUTA, Septimiu (IFIN-HH)

**Co-author:** Dr GHENUCHE, Petru (IFIN-HH)

**Presenter:** BALASCUTA, Septimiu (IFIN-HH)