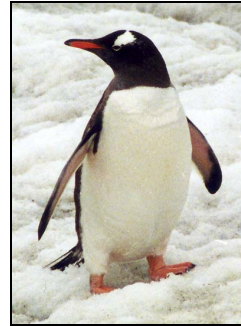


# seminari BLISS



Martedì 11 Novembre 2008

ore 11:30

nell'Auletta Seminari IPCF

il Dr. Sergio Betti

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terrà un seminario su

## **Towards laser-accelerated, quasi-monochromatic ion bunches via ultrathin targets microstructuring?**

ABSTRACT - Due to the important applications in which ion bunches of tens of MeV play a significant role, like Inertial Confinement Fusion and hadrontherapy, laser-driven ion acceleration has, in the recent ten years, gained considerable attention in the scientific community as a valuable approach alternative to ordinary colliders. A necessary feature ion bunches must possess in order to be suitably employed in applied sciences is a quasi-monoenergetic spectrum, a relative energy dispersion  $\Delta E/E$  below 2% being a standard request. At present, two major efforts in this direction have lead to the experimental generation of laser-accelerated ion bunches with a  $\Delta E/E$  of roughly 25% and of 17%, respectively. Here, we focus our attention on theoretically discussing a new approach towards the production of laser-accelerated, quasi-monoenergetic ion bunches. Computer simulations indicate that with such an approach the relative ion energy spread is significantly reduced. A feasible experimental set-up capable of verifying the theoretical predictions is thus accurately described.

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