

GSI - SEMINAR

Im Theorieseminarraum, SB3 Raum 3.170a
Darmstadt, Planckstraße 1

Donnerstag, den 5. März 2015, 15:00 Uhr

Dr. rer. nat. Jörg Pawelke

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and
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***“Development of laser-driven particle therapy – Progress report
on the onCOOPtics project”***

ABSTRACT

The particle acceleration by high intensity lasers promises more compact and cost effective ion therapy facilities. Unlike conventional beams, laser-driven beams are characterized by short ultra-intense pulses with peak dose rates exceeding conventional values by several orders of magnitude but low repetition rate, inherent pulse-to-pulse fluctuation, large beam divergence and broad energy spread. In consequence, a future medical application requires not only a high power laser system and laser target to generate particle beams of therapeutic quality but also new technical solutions for suitable beam detection and dosimetry, beam transport including gantry systems, dose delivery including treatment planning along with research on the radiobiological consequences of short radiation pulses with high pulse dose. The status of the ongoing joint translational research project onCOOPtics of several institutions in Germany will be presented.

Einladender: Gerhard Kraft

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