

# Investigations on Prompt Gamma Imaging as Quality Assurance for Ion Therapy

*Dienstag, 16. September 2014 17:30 (1 Stunde)*

In situ methods of dose verification for ion therapy are still in development. A promising approach is the measurement of prompt gamma ray emission following nuclear reactions, which can be correlated to the Bragg peak. This technique is known as prompt gamma imaging (PGI).

An important topic for PGI is the ideal positioning of the detector due to low count rates. Recent simulations indicate a non-trivial angular distribution of prompt gamma intensities in certain ranges of emission energy. Knowledge of this distribution will improve not only statistics but also any response function used for reconstruction of the Bragg peak. Measurements with a slit collimated HPGe detector for various primary ion energies are in preparation.

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**Sitzung Einordnung:** Poster