

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 22.05.2014, 16¹⁵ Uhr

Seminarraum 127, TUM, Physik II, Erdgeschoss/Nord
Treffen zum gemeinsamen Kaffee 16 Uhr

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The sound of protons - Range verification by measurement of the acoustic signal from the Bragg Peak

Range verification in ion beam therapy relies to date on nuclear imaging techniques which require complex and costly detector systems. A different approach is the detection of thermoacoustic signals that are generated due to localized energy loss of ion beams. First results of a feasibility study to determine the ion range with sub-mm accuracy by use of high frequency ultrasonic (US) transducers and to image the Bragg peak by tomography are presented. The results show that range verification by acoustic means is a promising new technique for treatment modalities where the tumor can be localized by US imaging. Furthermore, the acoustic range verification approach could offer the possibility of combining anatomical US imaging with Bragg Peak imaging in the future

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