

**FAKULTÄT für PHYSIK  
LUDWIG-MAXIMILIANS-UNIVERSITÄT  
MÜNCHEN/GARCHING**

**PHYSIK-DEPARTMENT  
TECHNISCHE UNIVERSITÄT MÜNCHEN  
MÜNCHEN/GARCHING**

## **MLL-KOLLOQUIUM**

**Donnerstag, 15.11.2012, 16<sup>15</sup> Uhr**

Hörsaal der LMU in Garching, Am Coulombwall 1  
Treffen zum gemeinsamen Kaffee 16 Uhr

**Dr. Denis Dauvergne**

**Institut de Physique Nucleaire de Lyon, France**

### **Prompt-radiation imaging developments for online control of the dose during ion-therapy**

Ongoing developments for online control of ion-therapy within the Rhone-Alpes Program for Hadrontherapy Research will be presented. The aim of these developments is to provide real-time information on the ion range during proton or carbon ion treatments, by means of secondary prompt radiations induced by nuclear reactions. Two imaging modalities are studied: prompt gamma and secondary proton interaction vertex imaging. Collimated- and Compton-gamma cameras are being developed, both using time of flight to discriminate prompt gamma rays from neutron background. Pixel CMOS telescope detectors are used for proton tracking. Expected performances in terms of sensitivity and spatial resolution will be discussed.

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