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

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

# Garchinger Maier-Leibnitz-Kolloquium

**Donnerstag, 02.12.2021, $16^{15}$ Uhr**

Online via ZOOM:

https://lmu-munich.zoom.us/j/98457332925?pwd=TWc3V1JkSHpyOTBPQVlMelhuNnZ1dz09

Meeting ID: 984 5733 2925
Passcode: 979953

**Prof. Joost Verburg**

**(Massachusetts General Hospital and Harvard Medical School, Boston, USA)**

## Prompt gamma-ray spectroscopy for proton range verification: development and first in-human measurements

A method to precisely determine the range of proton radiotherapy beams delivered to the patient has long been desired. It could enable better and more consistent treatments, facilitate new methods for treatments adaptation, and serve as a validation for other imaging modalities. We have developed a clinical system to perform range verification based on spectroscopy of prompt gamma-rays from proton nuclear interactions with the patient's tissue. This presentation will give an overview of the development, methodology, and the engineering of our system. We will also show the results of recent experiments and the first measurements during patient treatment.

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