



## Andreas Renner

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**Tuesday, 12<sup>th</sup> December 2017, 16:00 s.t.**

TU Wien, Institut für Angewandte Physik, E134  
1040 Wien, Wiedner Hauptstraße 8-10  
Yellow Tower „B“, 5<sup>th</sup> floor, SEM.R. DB gelb 05 B



### **A Transmission Source System for PET Attenuation Correction in PET/MR Imaging**

The combination of Positron Emission Tomography (PET) and Magnetic Resonance Imaging (MRI) systems provides additional benefit for diagnostic imaging. Accurate attenuation correction (AC) is a challenge in PET/MRI compared to stand-alone PET and PET/CT. In the absence of photon transmission sources in PET/MRI, methods for AC rely in general on the retrospective segmentation of MR images or complex additional MR sequences. Most methods neglect attenuation of bone to a significant extent. We have therefore developed a fully integrated transmission system for PET/MRI to enable direct measurement of attenuation using external gamma emitters, which is the gold-standard in AC.

This presentation illustrates the basic physical principles of PET as well as AC and introduces our transmission system. Results achieved by this novel setup are presented and discussed.

All interested colleagues are welcome to this seminar lecture (45 min. presentation followed by discussion)

Friedrich Aumayr  
(LVA-Leiter)

Martin Gröschl  
(Seminar Chair)