



Contribution ID: 182

Type: Talk

[705] An ion CT demonstrator for stopping power measurements

Tuesday, August 31, 2021 2:45 PM (15 minutes)

Ion therapy treatment planning requires an accurate estimate of the energy deposition of the ions per path length (stopping power) in the patient. From a conventional planning CT, Hounsfield units are obtained that have to be converted to stopping power values leading to range uncertainties. Ion computed tomography (iCT) allows to directly measure this quantity. In this scope, research activities of our group, with emphasis on GPU-based image reconstruction, the implementation of an ion CT demonstrator at MedAustron as well as upgrade possibilities, will be presented.

Primary authors: Dr HIRTL, Albert (Atominstitut, TU Wien, Vienna, Austria); Mr BURKER, Alexander (Atominstitut, TU Wien, Vienna, Austria); Ms KASER, Stefanie (Institute of High Energy Physics, Austrian Academy of Sciences, Vienna, Austria); Mr IRMLER, Christian (Institute of High Energy Physics, Austrian Academy of Sciences, Vienna, Austria); Prof. GEORG, Dietmar (Department of Radiation Oncology, Medical University of Vienna, Vienna, Austria); Mr ULRICH-PUR, Felix (Institute of High Energy Physics, Austrian Academy of Sciences, Vienna, Austria); Dr PITTERS, Florian (Institute of High Energy Physics, Austrian Academy of Sciences, Vienna, Austria); Dr HATAMIKIA, Sepideh (Austrian Center for Medical Innovation and Technology, Wiener Neustadt, Austria); Dr BERGAUER, Thomas (Institute of High Energy Physics, Austrian Academy of Sciences, Vienna, Austria); Prof. BIRKFELLNER, Wolfgang (Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria)

Presenter: Ms KASER, Stefanie (Institute of High Energy Physics, Austrian Academy of Sciences, Vienna, Austria)

Session Classification: Biophysics, Medical Physics and Soft Matter

Track Classification: Biophysics, Medical Physics and Soft Matter