



Contribution ID: 59 Contribution code: MOB3

Type: Oral Presentation

Ion source upgrades at MedAustron ion therapy center

Wednesday, September 18, 2024 10:50 AM (30 minutes)

MedAustron is a synchrotron-based cancer therapy center providing proton and carbon ion beams in an energy range of 62–252 MeV/u and of 120–400 MeV/u, respectively. The facility has three clinical irradiation rooms, among which horizontal and vertical beam lines as well as a proton gantry are available for treatment. A fourth irradiation room is dedicated to non-clinical research and will additionally provide helium ion beams in the near future. The injector features three identical ECRIS operated at 14.5 GHz, two of which are used for proton and carbon ion beam production. The third ion source is used for helium beam generation as well as a test bench for future source upgrades. One of the latest upgrades, rolled-out clinically, is the switch of the carbon ion source from continuous wave operation to pulsed mode operation. In this work we present the main commissioning results obtained in pulsed mode and the beam properties measured up to the irradiation rooms. The results of ongoing source upgrade activities, for future potential clinical use, concerning the use of Double Frequency Heating mode for the proton source, improving the overall accelerator performances, will also be discussed.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

Primary author: GAMBINO, Nadia (EBG MedAustron GmbH)

Co-authors: GUIDOBONI, Greta (EBG MedAustron GmbH); KAUSEL, Matthias (EBG MedAustron GmbH); MADER-BÖCK, Clemens (EBG MedAustron GmbH); MYALSKI, Szymon (EBG MedAustron GmbH); PENESCU, Liviu (Abstract Landscapes); RIZZOGLIO, Valeria (EBG MedAustron GmbH); SCHMITZER, Claus (EBG MedAustron GmbH)

Presenter: GAMBINO, Nadia (EBG MedAustron GmbH)

Session Classification: WEB: Oral Session MC6

Track Classification: MC1: New Development and Status Reports