Contribution ID: **6** Type: **not specified**

Physics vs. Cancer: What are the Hot Topics in Particle Therapy Accelerator Development?

Thursday 25 February 2021 16:15 (1 hour)

The presentation provides an overview over the recent developments in the field of accelerators and beamlines for proton, ion and high-energy electron therapy. It describes the rising use of the superconducting technology, in particular to its application to the gantry magnets. The advantages and disadvantages of the superconducting technology use are discussed in regards to both proton and ion beam therapy systems. This includes the delineation of the new treatment modalities enabled by the use of superconducting magnets. Furthermore, the principle of FLASH therapy with electron and proton beams is introduced and its challenges in regards to dose distribution, beam stability and dosimetry are discussed. As a conclusion, the outlook for the potential solutions is presented.

Presenter: GERBERSHAGEN, Alexander (CERN)