Accelerator Systems Division

Seminar Announcement

Date: Wednesday, May 25, 2016

Time: 11:00 a.m.

Location: Conf. Rm. A1100

Presentation 1

Title: Physics design of a compact carbon ion accelerator for therapy

Presenter: Alexander Plastun, PHY

Feasibility of an Advanced Compact Carbon Ion Linac (ACCIL) for hadron therapy is being studied at Argonne National Laboratory in collaboration with Radiabeam Technologies. The 45-meter long linac is designed to deliver 1010 carbon ions per second with variable energy from 45 MeV/u to 450 MeV/u. The carbon beam energy can be adjusted from pulse-to-pulse, making 3D tumor scanning straightforward and fast. Front end accelerating structures such as RFQ, DTL and Coupled-DTLs are designed to operate at lower frequencies, than S-band high-gradient sections applied above 45 MeV/u. Results of the end-to-end beam dynamics studies and RF design of the accelerating structures will be presented.

Presentation 2

Title: Report on RF Power Conditioning and Breakdown Study of a High-Gradient S-Band Structure (HGS)

Presenter: Aditya Goel and Ali Nassiri, ASD-RF

The development of room-temperature high-gradient structures aims at doubling the available RF gradient at S-band while taking full advantage of commercially available S-band high power RF sources. Here, we will report on a recent high-power RF conditioning and breakdown study of a 5-cell HGS using the ASD Injector Test Stand (ITS).