

Progress of the spoke cavity prototyping for the JAEA-ADS linac

Tuesday 27 August 2024 16:00 (2 hours)

The Japan Atomic Energy Agency (JAEA) has been proposing an accelerator-driven nuclear transmutation system (ADS) as a future nuclear system. In preparation for the actual design of the CW proton linac for the JAEA-ADS, we are now prototyping a low-beta (around 0.2) single-spoke cavity. The cavity fabrication started in 2020. Most of the cavity parts were shaped in fiscal year 2020 by press-forming and machining. In 2021, we started welding the shaped cavity parts together. By preliminarily investigating the optimum welding conditions using mock-up test pieces, each cavity part was joined together with smooth welding beads. So far, we have fabricated the body section and the two end-plate sections. By measuring the resonant frequency of the temporarily assembled cavity, it was confirmed that there were no significant problems with the cavity fabrication.

Footnotes

Funding Agency

Primary author: TAMURA, Jun (Japan Atomic Energy Agency)

Co-authors: YEE-RENDON, Bruce (Japan Atomic Energy Agency); KAKO, Eiji (High Energy Accelerator Research Organization); MAEKAWA, Fujio (Japan Proton Accelerator Research Complex (J-PARC)); SAKAI, Hiroshi (High Energy Accelerator Research Organization); UMEMORI, Kensei (High Energy Accelerator Research Organization); MEIGO, Shin-ichiro (Japan Proton Accelerator Research Complex (J-PARC)); DOHMAE, Takeshi (High Energy Accelerator Research Organization); KONDO, Yasuhiro (Japan Atomic Energy Agency)

Presenter: YEE-RENDON, Bruce (Japan Atomic Energy Agency)

Session Classification: Tuesday Poster Session

Track Classification: MC3: Proton and Ion Accelerators and Applications: MC3.7 Superconducting structures