Contribution ID: **1891** Contribution code: **THPB008** Type: **Poster Presentation**

Sputtering characteristics of a compact NEG-coating device and performance evaluation of the TiZrV thin films

Thursday 5 June 2025 15:30 (2 hours)

Non-evaporable Getter (NEG) coating is a breakthrough technology wherein the inner walls of a vacuum chamber are coated with a material that functions as a vacuum pump. This technology is expected to gain widespread adoption across various fields in the future. However, the current coating method, originally developed for long beam ducts, is not adaptable to a wide range of vacuum chamber designs. Therefore, we have developed a compact NEG coating device that can be adapted to chambers of various geometries. The primary advantage of this device is its ability to coat complex-shaped chambers, which was difficult with conventional methods. Additionally, by reducing the uncoated surfaces as much as possible, it significantly improves pumping performance in terms of pumping speed and reducing Photon Stimulated Desorption (PSD) yields. We explore the optimal sputtering conditions for depositing high-performance NEG thin films with the device, and have performance evaluations of the NEG films, with observing the morphologies, measuring the pumping speed and PSD yields.

Footnotes

Paper preparation format

LaTeX

Region represented

Asia

Funding Agency

Author: WATANABE, Ruau (Sokendai, the Graduate University for Advanced Studies)

Co-authors: TANIMOTO, Yasunori (High Energy Accelerator Research Organization); UCHIYAMA, Takashi (High Energy Accelerator Research Organization); JIN, Xiuguang (High Energy Accelerator Research Organization); HONDA, Tohru (High Energy Accelerator Research Organization)

Presenter: WATANABE, Ruau (Sokendai, the Graduate University for Advanced Studies)

Session Classification: Thursday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T14 Vacuum Technology