

Development of High-density Highly Oriented Graphite Stripper

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In 2014, we found that high-density highly oriented Multilayer Graphene (MG) sheets provided by Kaneka Corporation [1] can be applied as stripper disks for heavy ion acceleration at RIKEN RIBF. These MG sheets are prepared from heat treated polyimide films at temperature up to 3000 °C. They have been used for uranium and various heavy ion beam operations since 2015 [2], nevertheless, no significant damage caused by beam irradiation has been found for the moment. Kaneka tried to fabricate thinner MG sheets with thickness of 1-10 μm and thinner sheets began to be available as a result of their research and development. We tested and evaluated these thinner MG sheets as stripper foils at RIBF. We have clarified, as a result of the SEM and EPMA analysis, the reasons why the MG sheets have high quality and long life times, and also found the difference in characteristic with carbon foils fabricated by an evaporation technique. The results will be represented.

References

- [1] A. Tatami et al., AIP Conference Proceedings 1962, 030005 (2018).
- [2] H. Hasebe et al., AIP Conference Proceedings 1962, 030004 (2018).

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