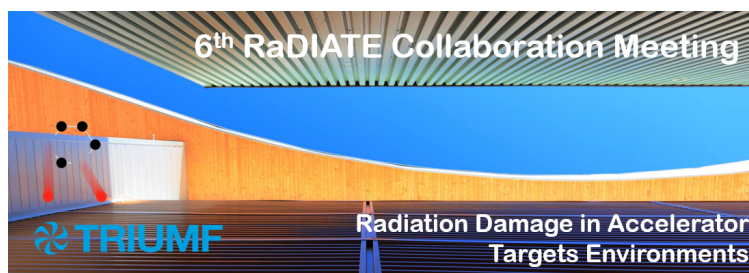


6th RaDIATE Collaboration Meeting



Contribution ID: 35

Type: Poster

Rotating proton beam onto TRIUMF ISAC targets

Tuesday, 10 December 2019 17:00 (2 hours)

Two AC magnets were installed to scan the 500 MeV proton beam in a circular pattern on the TRIUMF ISAC target.

Rotating a proton beam of reduced width on the ISAC targets contributed to a more homogeneous temperature distribution across the target and enabled the operation at a higher average temperature. Narrower beam rotation resulted in higher local power density, which enhanced the diffusions of isotopes; and an average power distributed over a larger surface area, resulted in less steep temperature gradients and enhanced the effusion of isotopes. Having the power deposition closer to the target walls, improved the heat dissipation and allowed for higher beam currents.

Online tests have shown that we can increase the longevity of the target and the radioactive ion beams (RIB) yields while maintaining the same maximum temperature.

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Session Classification: Poster session