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Development and commissioning of a new materials irradiation station at ATLAS

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A new dedicated materials irradiation beamline and target station was developed and recently commissioned at the ATLAS facility at Argonne National Laboratory. The new ATLAS Materials Irradiation Station (AMIS) is located just downstream of the first linac section (PII) and designed to receive heavy-ion beams with energies of 0.5 - 1.5 MeV/u. The main activity at AMIS is the irradiation of samples for radiation damage studies of nuclear materials. The facility will provide a unique accessible platform for accelerated testing of nuclear fuels and materials that support the testing and deployment of new materials for advanced reactors in a short period of time, which otherwise can take years of testing in conventional reactors. Although the focus of the AMIS line is to irradiate and investigate materials for nuclear energy applications, other research and applications are welcome. In particular, more beam time will be available following the completion of the ongoing ATLAS multi-user upgrade which will allow simultaneous beam sharing between different experimental stations. The development and commissioning results of the AMIS beamline will be presented and discussed.

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Footnotes

I have read and accept the Privacy Policy Statement

Yes

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