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## **A fast recovery 60kV charging device for the ISOLDE target extraction voltage**

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Among the different types of target, use of the neutron converter type has resulted in increased dynamic electrical load seen by the actual 60 kV extraction voltage modulator, with the consequence that the recovery time of the target voltage to the precision of 0.001% is delayed, which in turn reduce the possibilities for the detection of exotic isotopes with extremely short half-lives. This is the primary motivation for the development of a more robust charging device capable of re-establishing the target extraction high voltage with improved transient response. The validation of the performance of the new charging device has been realized in real operational condition at the ISOLDE facility considering the most severe beam induced leakage current at the maximum beam intensity. In this given case, representing the worst-case scenario, a substantial gain in term of recovery time over the actual modulator was achieved.

**Primary author:** GHARSA, Thierry Paul (CERN)

**Presenter:** GHARSA, Thierry Paul (CERN)

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