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## **Bunching studies with the ISOLDE RFQcb**

*Wednesday 5 December 2018 17:30 (2 hours)*

The RadioFrequency Quadrupole cooler buncher (RFQcb or ISCOOL) is a permanent beam cooling installation on the High Resolution Separator (HRS) at ISOLDE. It is extensively used by many of the downstream experiments for beam preparation by reducing the transverse emittance and converting a DC beam into pulsed bunches.

An extensive investigation into the RFQcb bunching properties was carried out using the new electrostatic mirror Time Of Flight (TOF) detector installed at a distance of ~10 m downstream of the bunch extraction. The performance of the RFQcb was methodically and thoroughly investigated to characterise its bunching performance for a selection of masses with four main parameters to probe, injection pressure, number of charges, extraction voltages and cooling time. The results from these investigations will be presented here along with a general introduction to the RFQcb to better aid the users understanding and the tunes required for their experiments.

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