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# Commissioning of EMMA

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The electromagnetic mass analyser (EMMA) is a new vacuum-mode recoil mass spectrometer located at the ISAC-II facility at TRIUMF, Vancouver, Canada. Assembly of the spectrometer was completed in 2016, and it received first beam in December 2016. The first in-beam test consisted of an 80 MeV  $^{36}\text{Ar}$  beam impinging on a  $4.46\text{ }\mu\text{m}$   $^{197}\text{Au}$  foil. The initial test proved to be very successful, with the spectrometer able to identify and scan across several charge states for both the scattered beam and back-scattered target nuclei. The dispersion of these charge states agrees very well with ion optical calculations used to design the spectrometer, and the  $m/q$  resolution is comparable to what would be expected given the large energy spread of ions emerging from the target. During the coming year EMMA will be extensively tested with an alpha source, followed by a second in-beam commissioning exercise scheduled for September. This poster will introduce the design capabilities of the spectrometer and discuss results obtained from the first in-beam test and alpha source commissioning, along with further discussion on applying EMMA to study reaction rates of astrophysical interest.

**Primary author:** Mr WILLIAMS, Matthew (University of York / TRIUMF)

**Presenter:** Mr WILLIAMS, Matthew (University of York / TRIUMF)

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