



Contribution ID: 6

Type: **Short oral**

## First H- Beam Extracted from the Non-Caesiated External RF-Coil Ion Source at ISIS

*Tuesday 4 October 2022 10:00 (20 minutes)*

A high power, high duty-cycle, negative hydrogen ion source is in development at ISIS. Stable operation of an inductively-coupled plasma pulsing at 50 Hz, 1 ms, 70 kW has been perfected with no apparent lifetime issues. Novel features of the ion source include an external RF-coil, a very low power ignition gun, an adjustable permanent magnet filter field, a water cooling jacket and multiple large 3D-printed components. First beam has been extracted from the ion source and the commissioning efforts required to achieve it are presented herein.

**Primary authors:** Dr TARVAINEN, Olli (UKRI); Dr LAWRIE, Scott (UKRI)

**Co-authors:** Mr CAHILL, Chris (UKRI); Dr FAIRCLOTH, Dan (UKRI); Mr MACGREGOR, John (UKRI); Mr SPEED, Jon (UKRI); Mr ABEL, Robert (UKRI)

**Presenter:** Dr LAWRIE, Scott (UKRI)

**Session Classification:** Oral session 4

**Track Classification:** 13. RF/inductively-coupled sources