



Contribution ID: 73

Type: **Oral**

Breakdown Localisation in a Radiofrequency Quadrupole

Wednesday, 18 October 2023 17:20 (20 minutes)

In 2020, following a successful commissioning period, CERN's linear accelerator 4 (Linac4) became the proton source for the CERN accelerator complex. The first RF accelerating structure in Linac4 is a 3 m long Radio-Frequency Quadrupole (RFQ) which operates with an inter-vane voltage of 78 kV and a peak surface electric field of 34 MV/m.

To monitor the cavity field profile, the RFQ is equipped with 16 probes and the measured signals are logged automatically during operation. An analysis of the signals recorded during breakdowns has been performed, and in this talk a novel method of breakdown localisation is described. The results and their implications are then briefly discussed.

Primary author: MILLAR, Lee (CERN)

Presenter: MILLAR, Lee (CERN)

Session Classification: Afternoon session