

# Design of BPMs for a 750 MHz hadrontherapy Linac

Monday 26 August 2024 16:00 (2 hours)

This work presents the design of Beam Position Monitors for a 750 MHz linac for hadrontherapy studies. BPMs will be installed in different sections of the Linac, operating at different energies, from the RFQ exit at 5 MeV/u to the end of the line after IH cavities at 10 MeV/u. The BPMs will allow measurement of the beam position, phase and time of flight (tof) studies. Therefore, being fundamental for commissioning and operation of the prototype hadrontherapy linac.

In the analysis we compare the expected signal from stripline and button BPMs using analytical and CST models. Studying the BPMs size and response at different energies, and BPMs sensitivity for position, phase and tof measurements.

## Footnotes

## Funding Agency

**Primary author:** RODRÍGUEZ PÁRAMO, Ángel (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas)

**Co-authors:** OLIVER, Concepcion (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas); MORENO, Gabriela (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas); CARMONA, José Miguel (Added Value Solutions); CALVO, Pedro (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas); GAVELA, Daniel (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas); PEREZ MORALES, Jose (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas); ETXEBARRIA, Jone (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas); LEON, M. (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas); TATO, A. (Added Value Solutions)

**Presenter:** CALVO, Pedro (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas)

**Session Classification:** Monday Poster Session

**Track Classification:** MC4: Technology: MC4.1 Beam diagnostics