



# ***Innovation in Online Hadrontherapy Monitoring: An In-Beam PET and Prompt-Gamma-Timing Combined Device***



V. Ferrero, P. Cerello, E. Fiorina, V. Monaco, M. Rafecas, R.J. Wheadon, and F. Pennazio

## ***I3PET***

### ***In-beam***

*Coordination with fast  
beam monitor detector*

### ***Innovative***

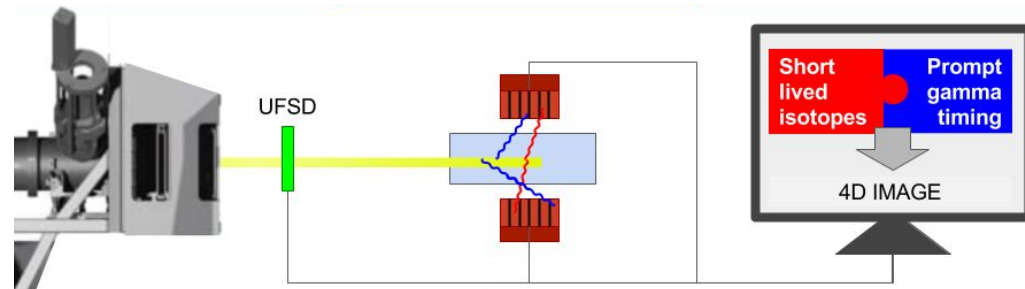
*Multi-modality detector  
(PET+PGT)*

### ***Imaging***

*Dedicated image  
reconstruction software*

The goal of the I3PET project is to improve online monitoring in hadrontherapy:

- by exploiting the information given by the decay of short-lived positron emitting isotopes
- by exploiting the information given by Prompt-Gamma-Timing (PGT)  
... simultaneously performed within the same PET detector.



*I3PET: towards better range monitoring in hadrontherapy*