

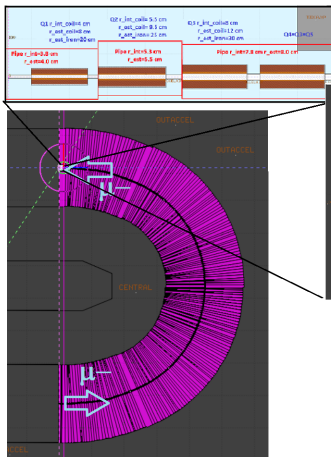
# BIB studies (II)

Camilla Curatolo\*, Paola Sala, Francesco Collamati,  
Alessio Mereghetti, Donatella Lucchesi

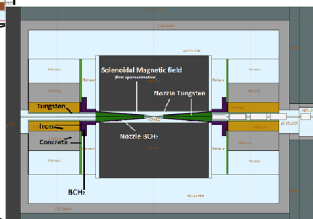
\*Università e INFN Padova, Italy  
camilla.curatolo@pd.infn.it

December 9, 2020

- Preliminary analysis of BIB obtained by  $\mu^-$  beam of  $2 \times 10^{12}$  particles: comparison between our and MAP results @1.5 TeV CM energy
- MAP data simulated by MARS15
- Our framework:



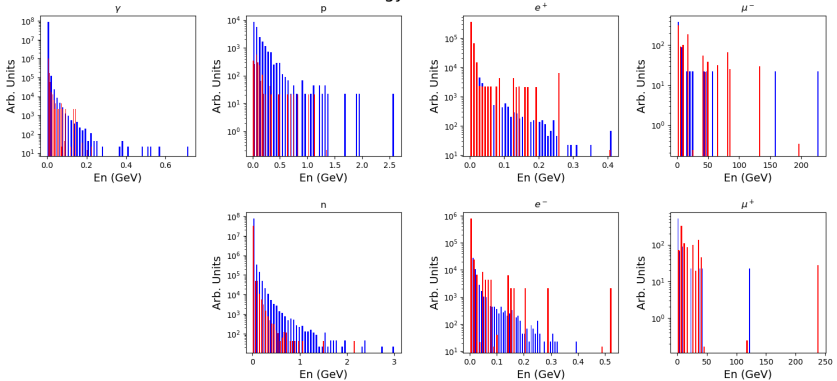
## Simulations: FlukaLineBuilder +Fluka



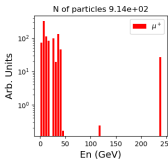
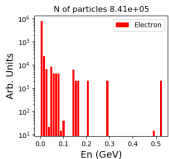
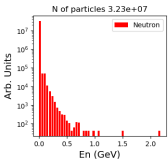
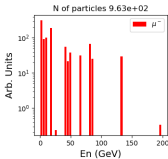
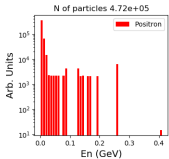
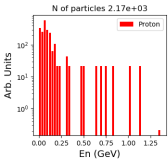
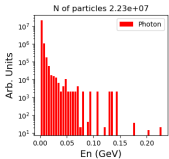
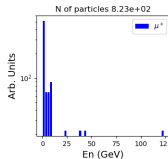
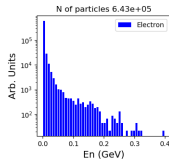
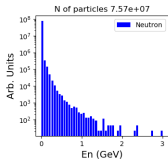
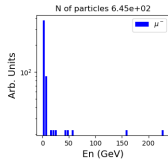
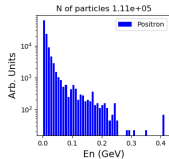
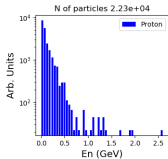
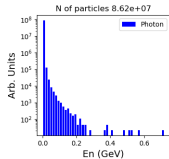
**750 GeV muon beam  
from opposite IP  
bias of muon decay  
in last 100 m to  
enhance statistics**

MAP data in blue      Our data in red

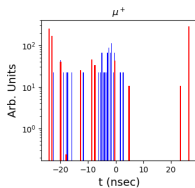
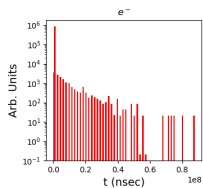
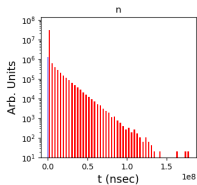
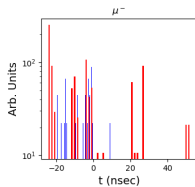
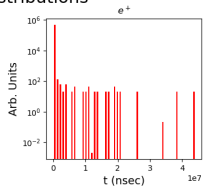
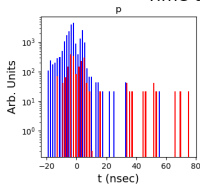
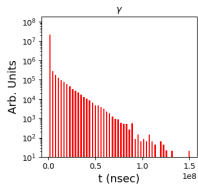
Energy distributions



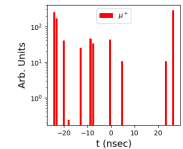
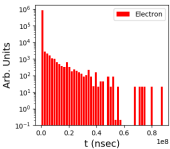
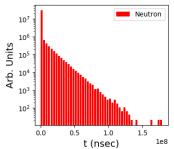
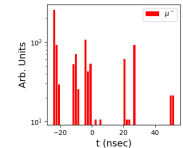
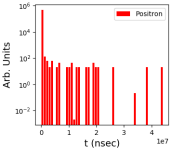
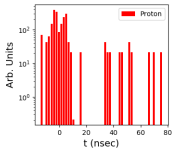
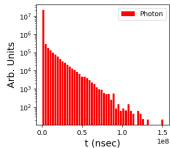
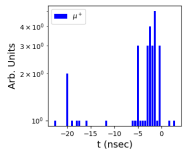
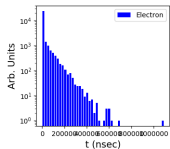
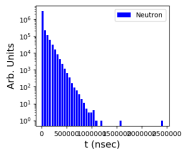
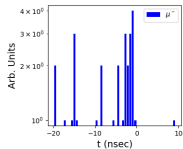
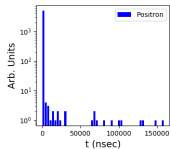
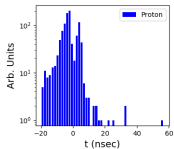
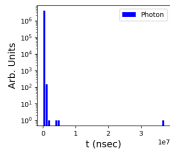
## Energy distributions



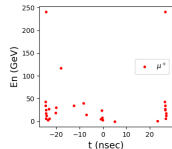
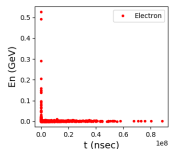
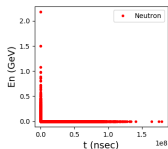
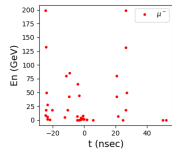
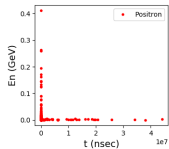
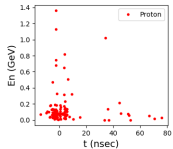
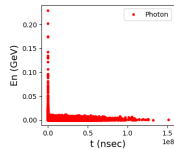
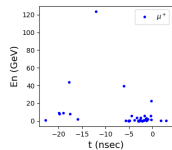
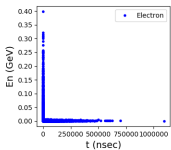
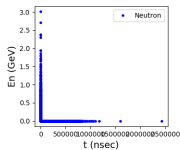
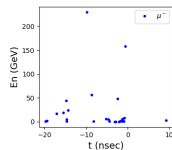
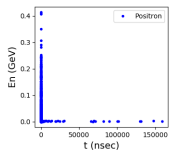
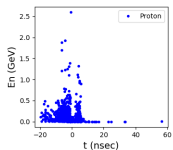
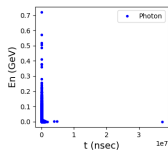
## Time distributions



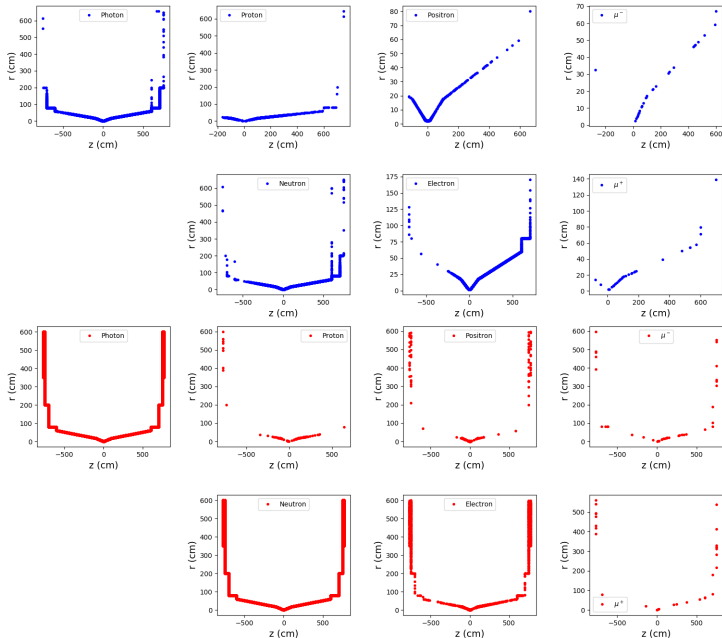
## Time distributions



# Time vs energy

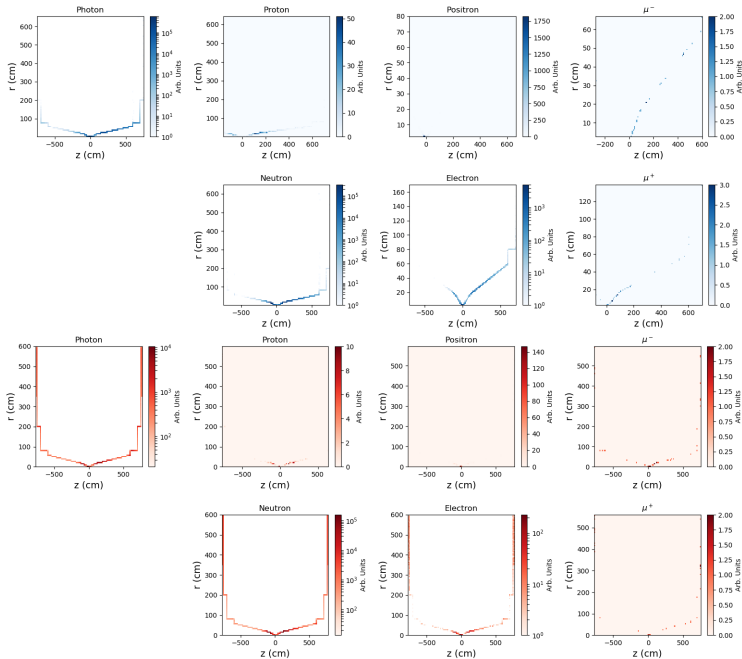


## z vs radius





## z vs radius



## TO DO LIST

- More accurate BIB analysis
- Comparison of BIB @ 125 GeV and 1.5 TeV CM
- Further work on accuracy of magnetic elements, pipe and passive elements in particular @ IR