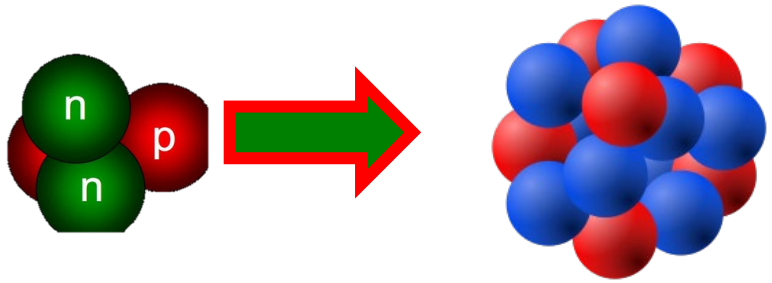
HIT data taking

HIT: a perfect data taking: !! Thanks to all the crew that made this possible

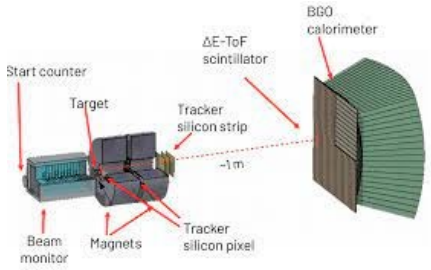
Piergiorgio will give a summary of the acquired data

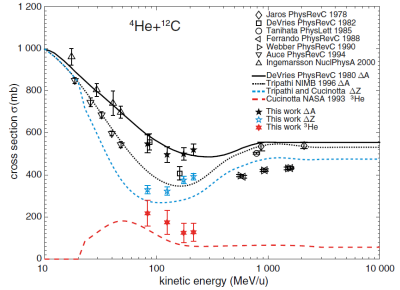
For sure we have a lot of data to



estimate the detector performances

physics





We need a lot of guys to reach this Goal (FOOT goal!!)

Moreover we have also: GSI2019-20, GSI2021, CNAO2021, HIT2022 (and CNAO2022?)

Analysis, 1

Speaking with involved people:

Choose one data sample (He(220?) and face all the analysis steps till the cross section

All detectors:

SC, BM, MSD, TW, CALO, TRIG

- Good Run List
- Beam rate (medium and inside spill)
- Alignment (BM – MSD – TW – CALO)
- Calibration
- MC
  - Geometry check
  - Production
  - Comparison with RD
  - Efficiency (all subdetectors)
- Nuclear Interaction on each subdetector

Analysis, 2

Subdetectors:

- **SC**
  - Pile up estimation
- **BM**
  - Performance (spatial and angular) vs rate
- **MSD:**
  - Pedestal: estimation and stability
  - eta function (correction of the impact position)
  - Energy estimation vs charge of the fragments
  - Energy estimation vs rate
  - Efficiency vs rate
- **TOFW**
  - Efficiency reconstruction of fragment charge
  - Spatial and Energy resolution
- **CALO**:
  - energy measurement vs:
    - charge fragment
    - energy fragment
    - Temperature
- **TRIGGER**
  - Fragmentation efficiency
  - Threshold check
- **DAQ**
  - Efficiency estimation
  - Bottleneck estimation

Analysis, 3

Physics:

- Vertex determination (events with >= 2 tracks)
- Event selection (SC – BM)
- Nuclear interaction in air
- Charge determination of nuclear fragments
- Mass determination of nuclear fragments
- Determination of background events
- Unfolding

Fundamental to have a simple tool to allow to many guys to use SHOE

I repeat: We need a lot of guys to reach this Goal (FOOT goal!!)