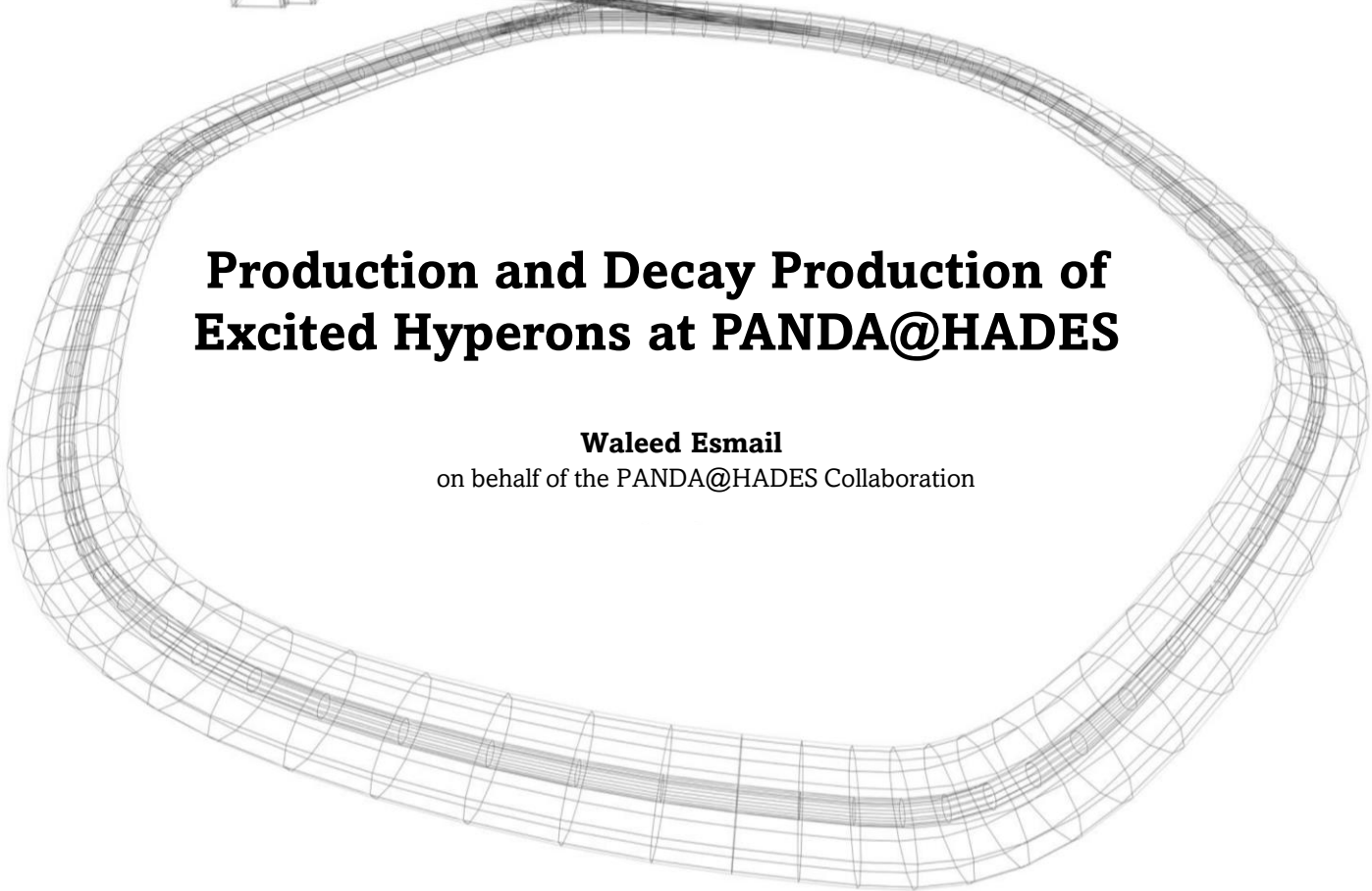


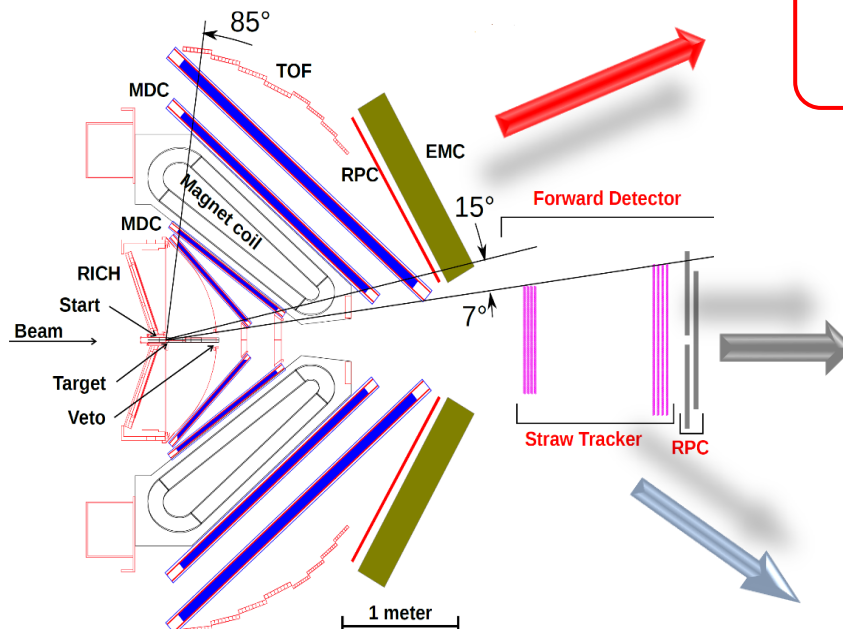
# Production and Decay Production of Excited Hyperons at PANDA@HADES

**Waleed Esmail**

on behalf of the PANDA@HADES Collaboration



# HADES Detector Upgrade



Electro Magnetic Calorimeter (EMC). It will provide energy information for leptons and photons

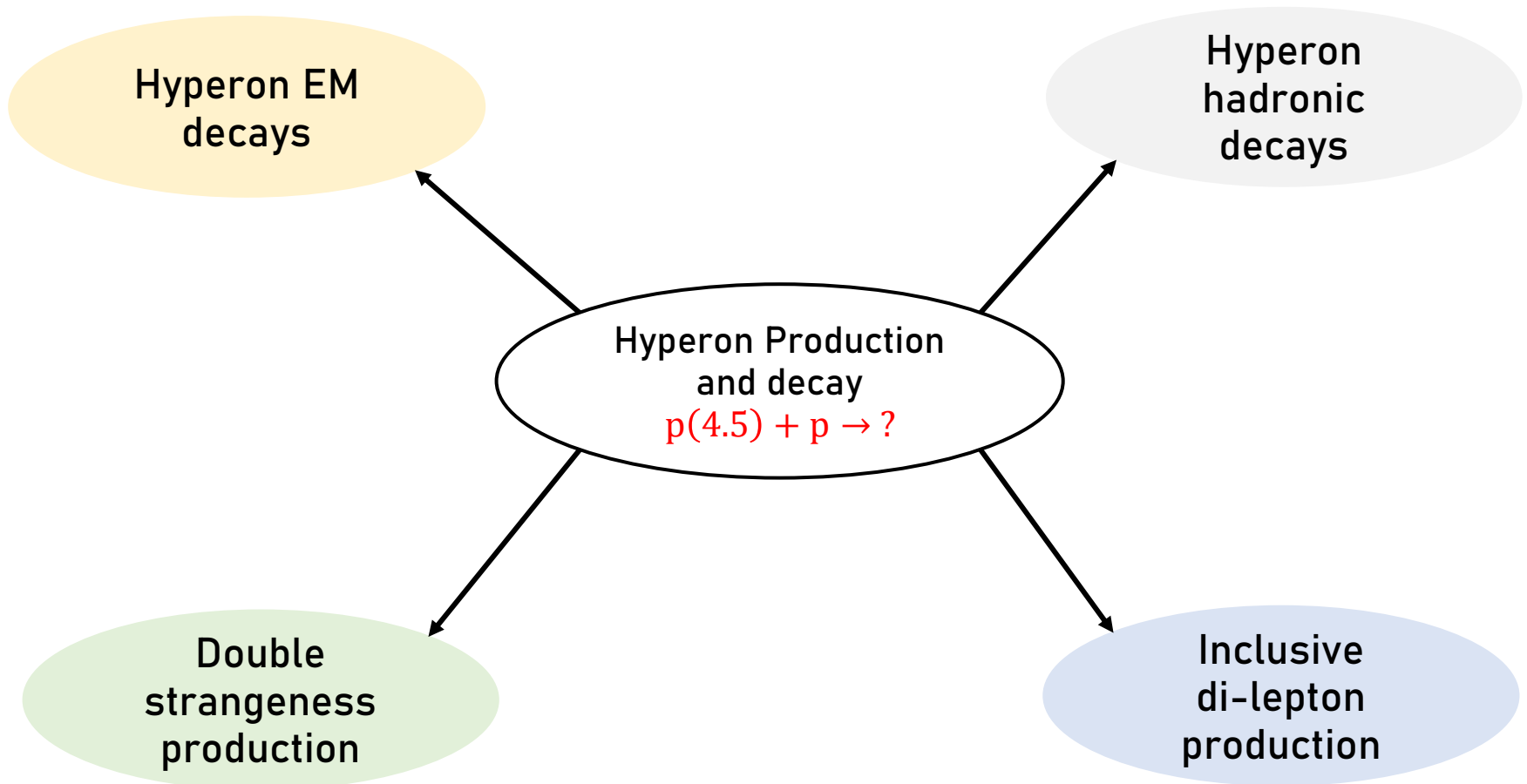
Resistive Plate Chambers (RPC). Provides information on time of flight (TOF)

**Straw Tracking Stations.**  
Based on PANDA straw tubes.  
Eight double layers 90, 0, 0, 90, and 0, 90, +45, -45

**In addition:**

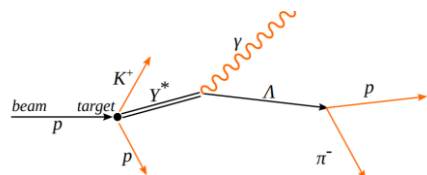
- RICH Upgrade (Improve  $e^+e^-$  eff.).
- innerTOF.
- DAQ.

# FAIR Phase-0 Physics Program

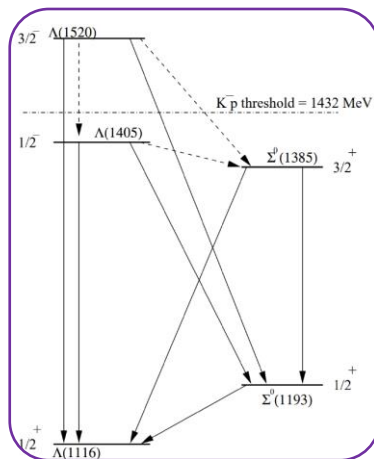


# Hyperon Structure

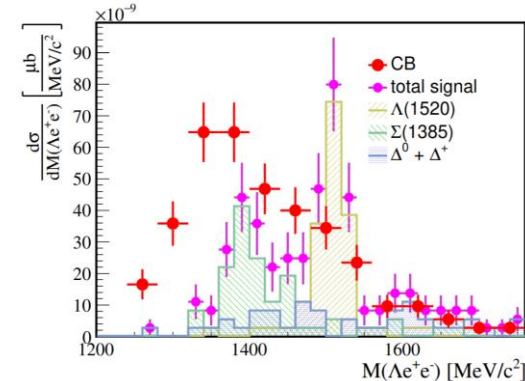
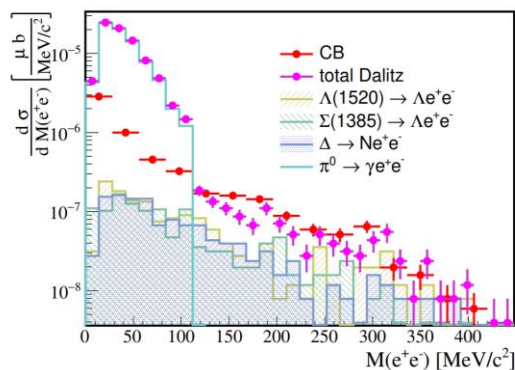
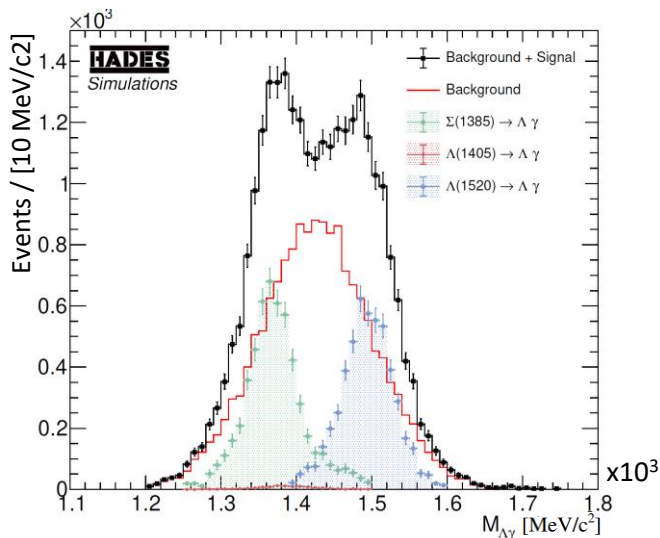
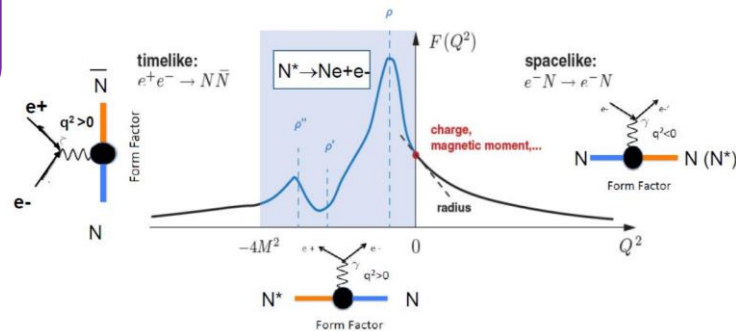
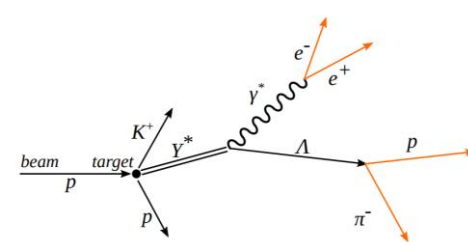
$$Y^* \rightarrow \Lambda \gamma$$



Model	$\Sigma(1385) \rightarrow \Lambda \gamma$	$\Lambda(1405) \rightarrow \Lambda \gamma$	$\Lambda(1520) \rightarrow \Lambda \gamma$
NRQM	263	200	156
RCQM	267	118	215
MIT Bag	152	60	46
Algebraic model	221	117	85
HB $\chi$ PT	290-470	-	-
CLAS Experiment	$479 \pm 120^{+81}_{-100}$	-	$176 \pm 43^{+26}_{-12}$



$$Y^* \rightarrow \Lambda e^+ e^-$$



THANK YOU FOR  
YOUR  
ATTENTION