





# Presentation 1

Jordan Melendez

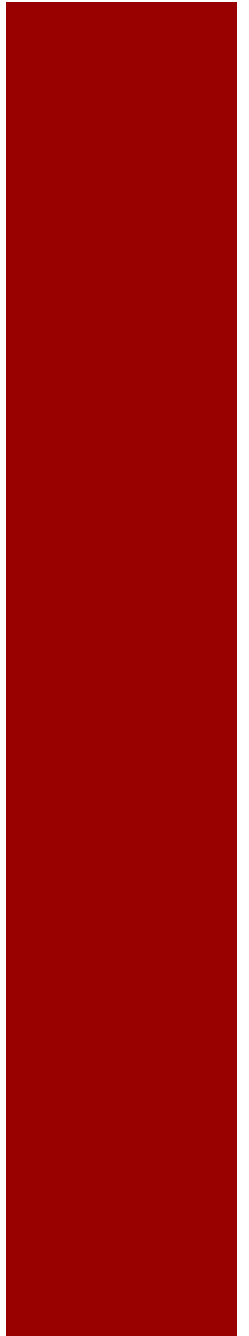
Advisor: Jiri Kvita

# Outline

- The experiment that I am working on
- It's primary goals
- My project
- Concerns

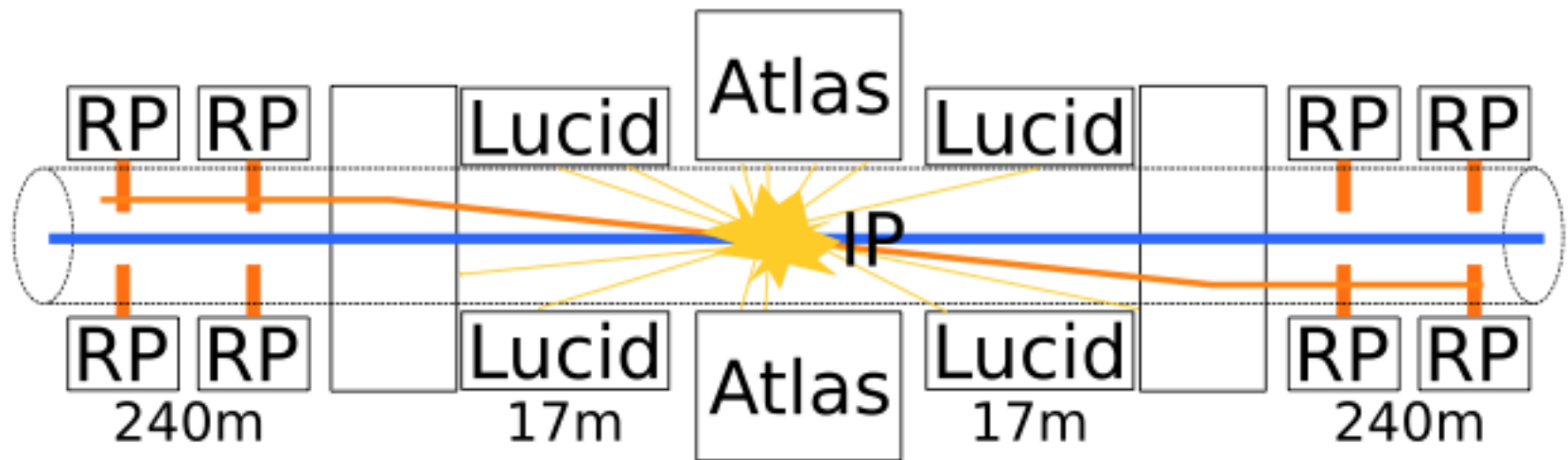


# The Experiment



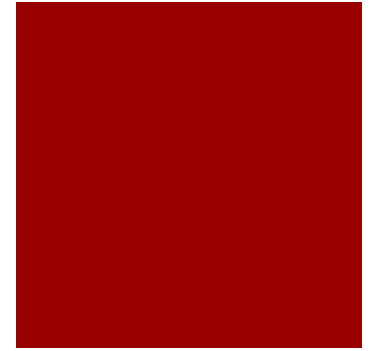
# The Big Picture

- ATLAS forward detectors

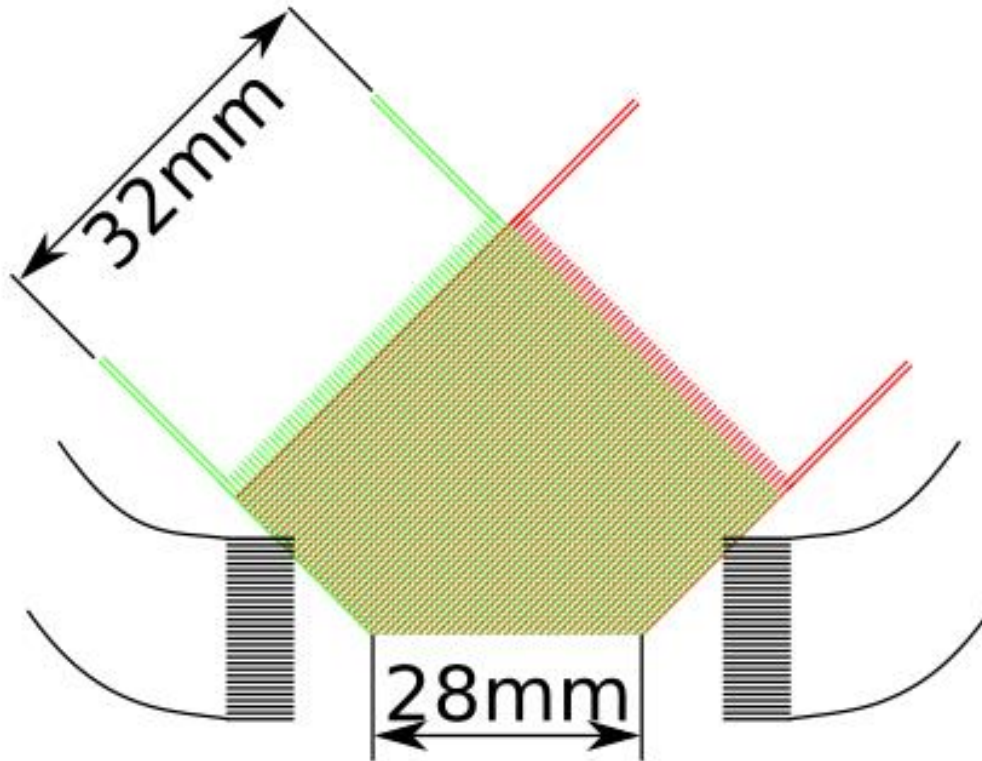
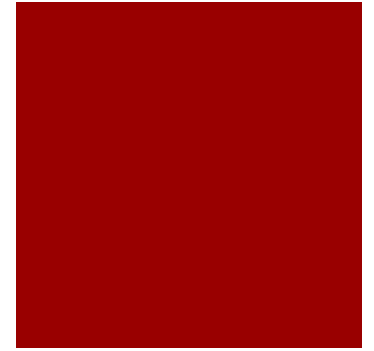


# ALFA Detectors

- ALFA – Absolute Luminosity For ATLAS
- Consists of 8 Roman Pots, four on each side of ATLAS
- 240 m away from main detector
- Can approach the LHC beam up to 1.5 mm

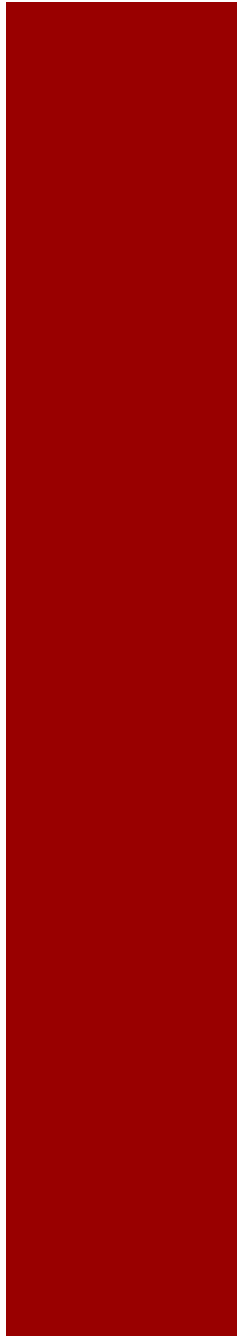


# ALFA Detectors



# Primary Goals

Why is it interesting?



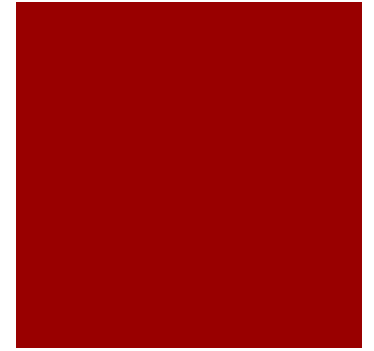


# Error Reduction

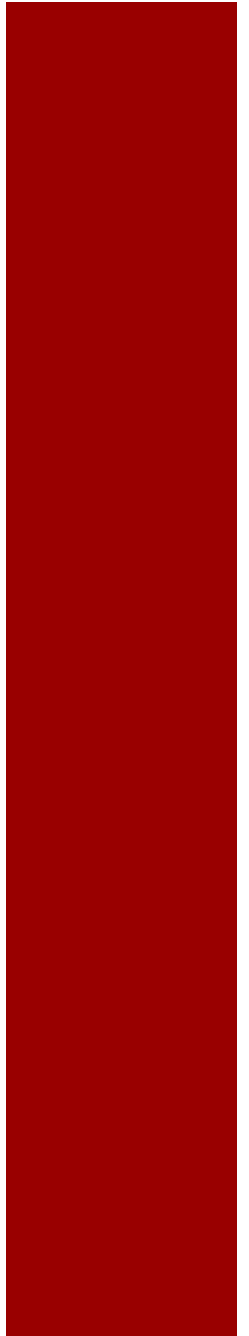
- The error in the cross section is dependent on the error in luminosity

$$\frac{dN}{dt} = \sigma \cdot L$$

- Without ALFA, luminosity precision comes from machine parameters, with a large error of 20%
- ALFA aims at a luminosity determination precision of less than 3%.

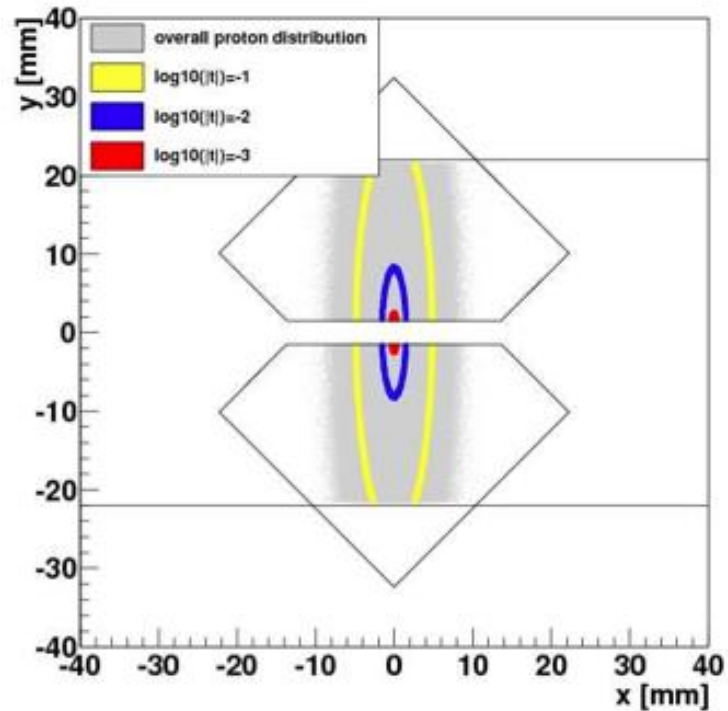


Where Do I Fit In?

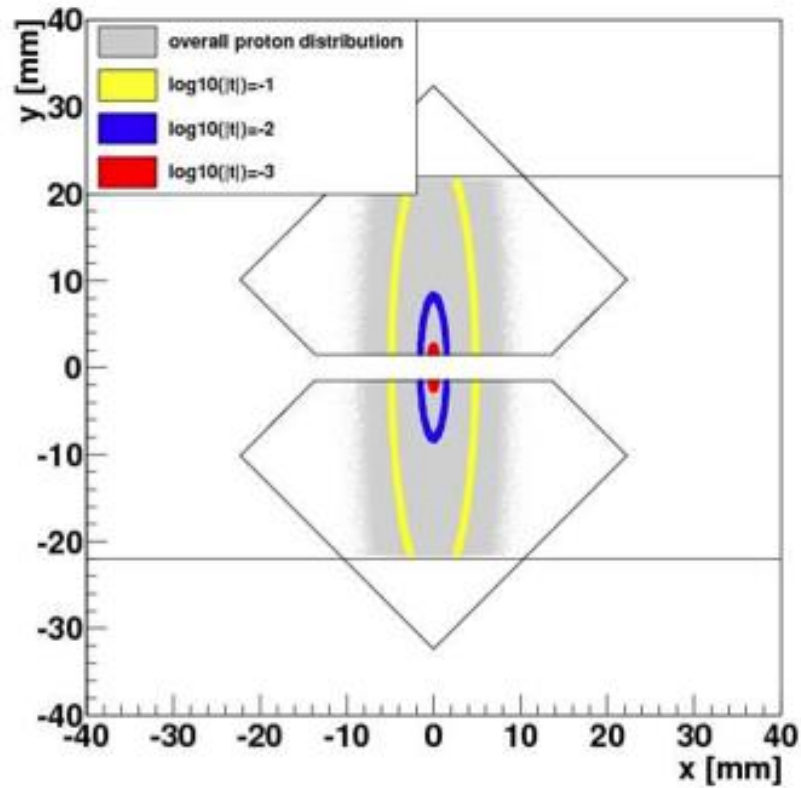
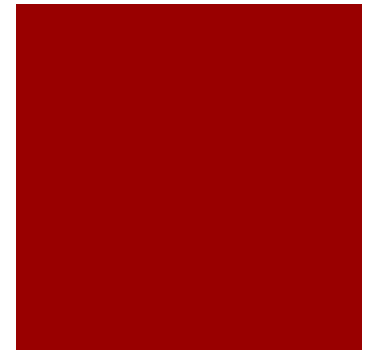


# My Project

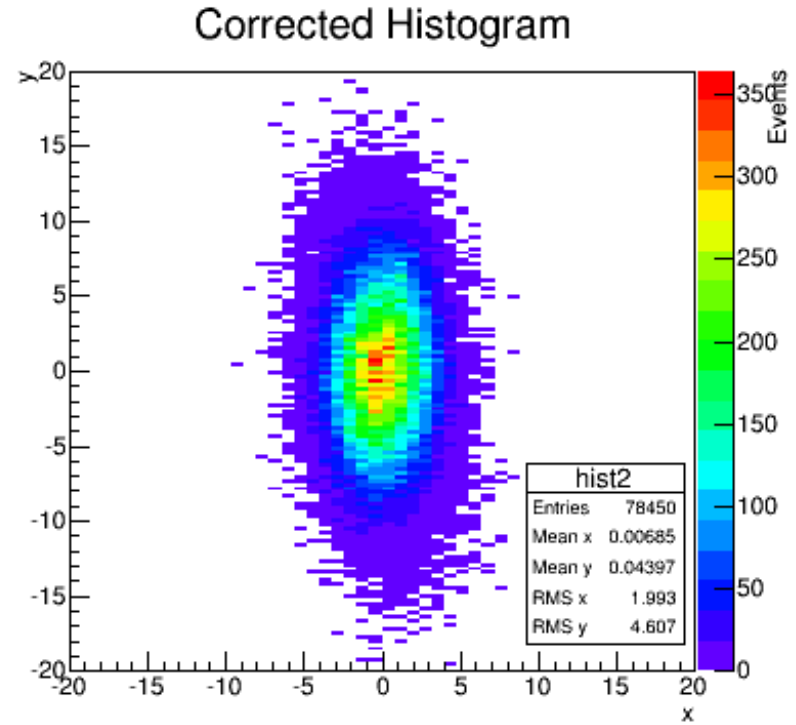
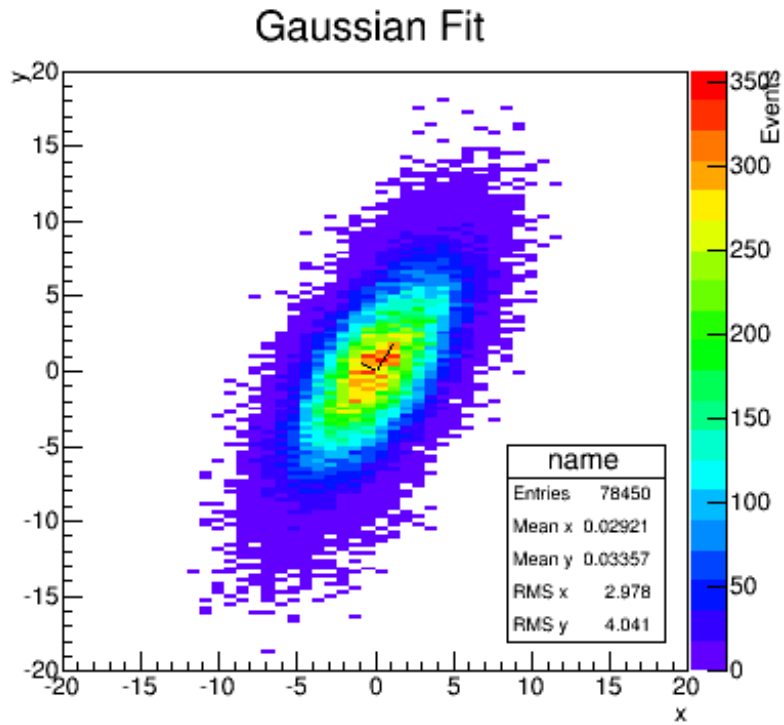
- Project Title:
  - Alternative alignment of AFP & ALFA detectors based on diffractive and HI events



# Work backwards...

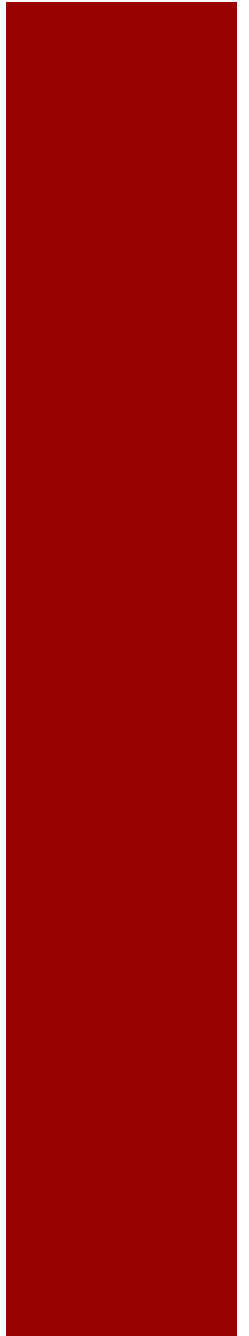


# One Method



- There are many more...

Concerns



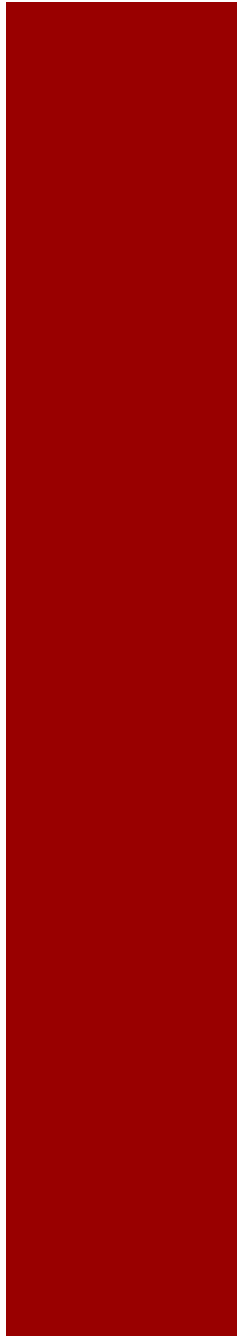
# Concerns

- Nope



# Favorite Excursion

There's more to life than science?

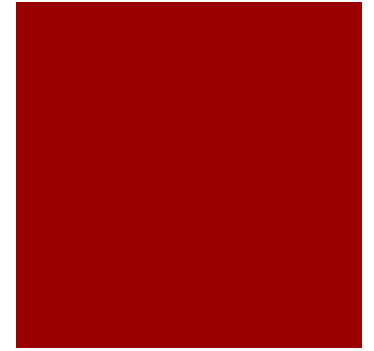




# Fete de la Musique



# Bern



# Mountain Climbing

