

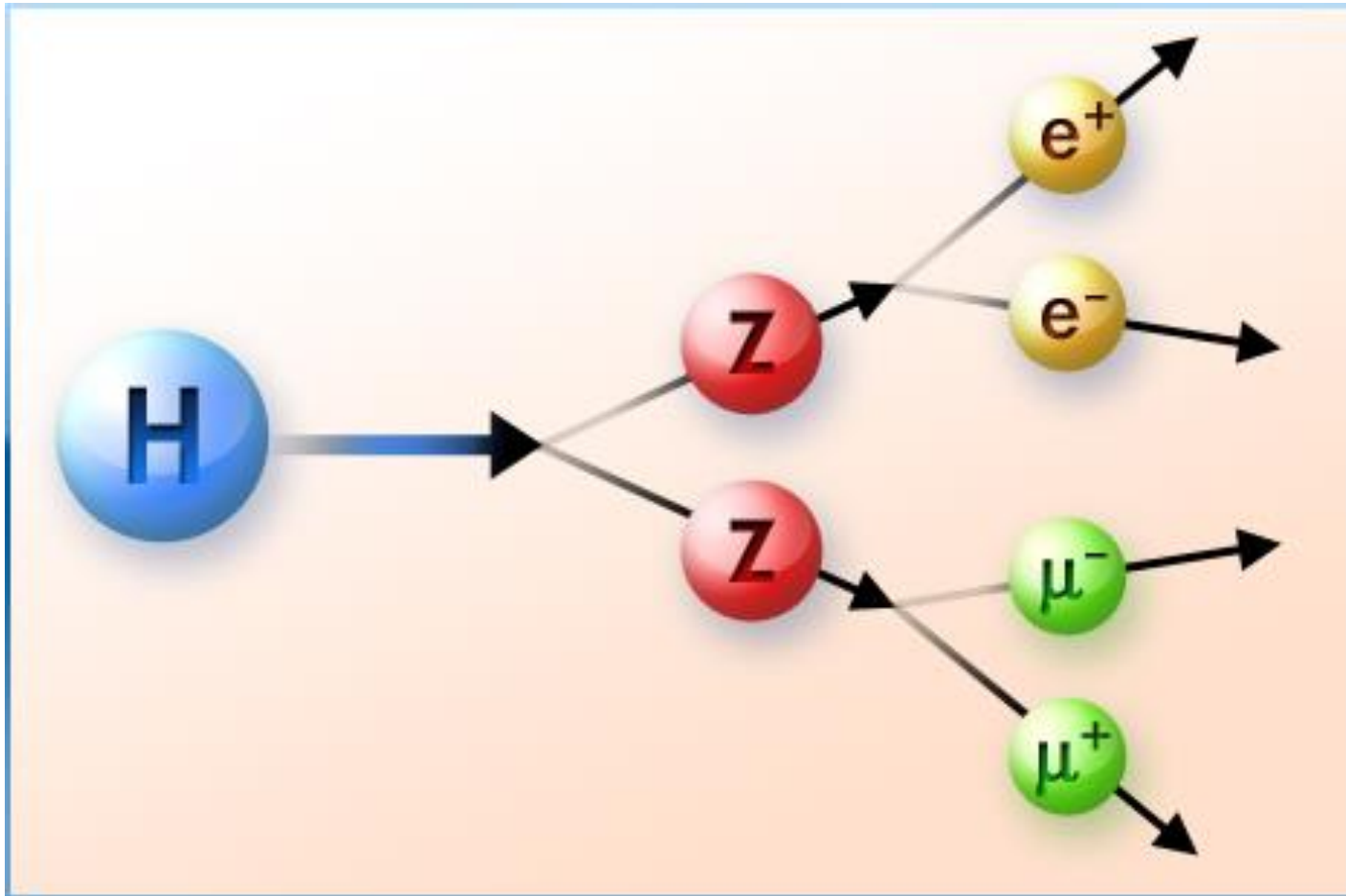
A complex visualization of particle detector data, likely from the ATLAS experiment at the LHC. It features a dense network of thin, colored lines (yellow, red, blue) and small, multi-colored squares (red, blue, yellow) scattered across a dark background. The lines and squares form intricate patterns, suggesting the paths and interactions of particles.

RESULTS FROM THE ATLAS SEARCH FOR Z BOSONS IN PROTON COLLISIONS OF THE LHC

“Catching some Zzzzzzzz” run by the ESADE team ATLAS

**IF YOU CAN'T EXPLAIN IT TO A SIX YEAR OLD
YOU DON'T UNDERSTAND IT YOURSELF**

ALBERT EINSTEIN



$$H \rightarrow Z + Z^* \rightarrow e^+ + e^- + e^+ + e^-$$

$$H \rightarrow Z + Z^* \rightarrow e^+ + e^- + \mu^+ + \mu^-$$

$$H \rightarrow Z + Z^* \rightarrow \mu^+ + \mu^- + e^+ + e^-$$

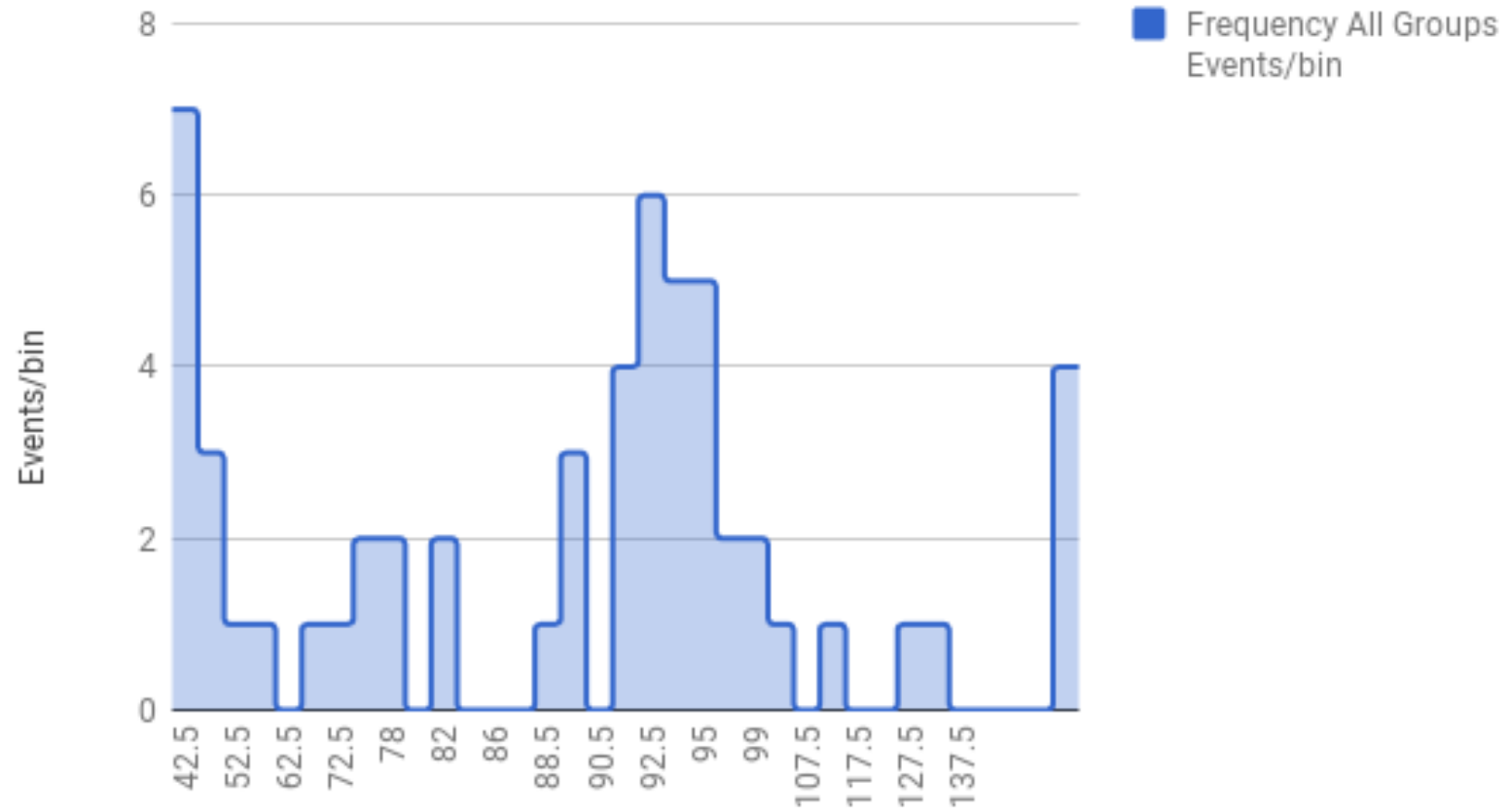
$$H \rightarrow Z + Z^* \rightarrow \mu^+ + \mu^- + \mu^+ + \mu^-$$

2 tracks

Opposite charge +/-

PT > 10 GeV

ATLAS Measured Di-Lepton Mass (GeV)



- ATLAS found evidences of a Boson in the range between 85 – 105 GeV
- Boson decays in a pair of electrons or a pair of muons
- We suspect that this is Z boson the carrier of the WEAK FORCE

WE ARE WAITING TO RECEIVE THE NEXT NOBEL PRIZE





**What's
Next?**

