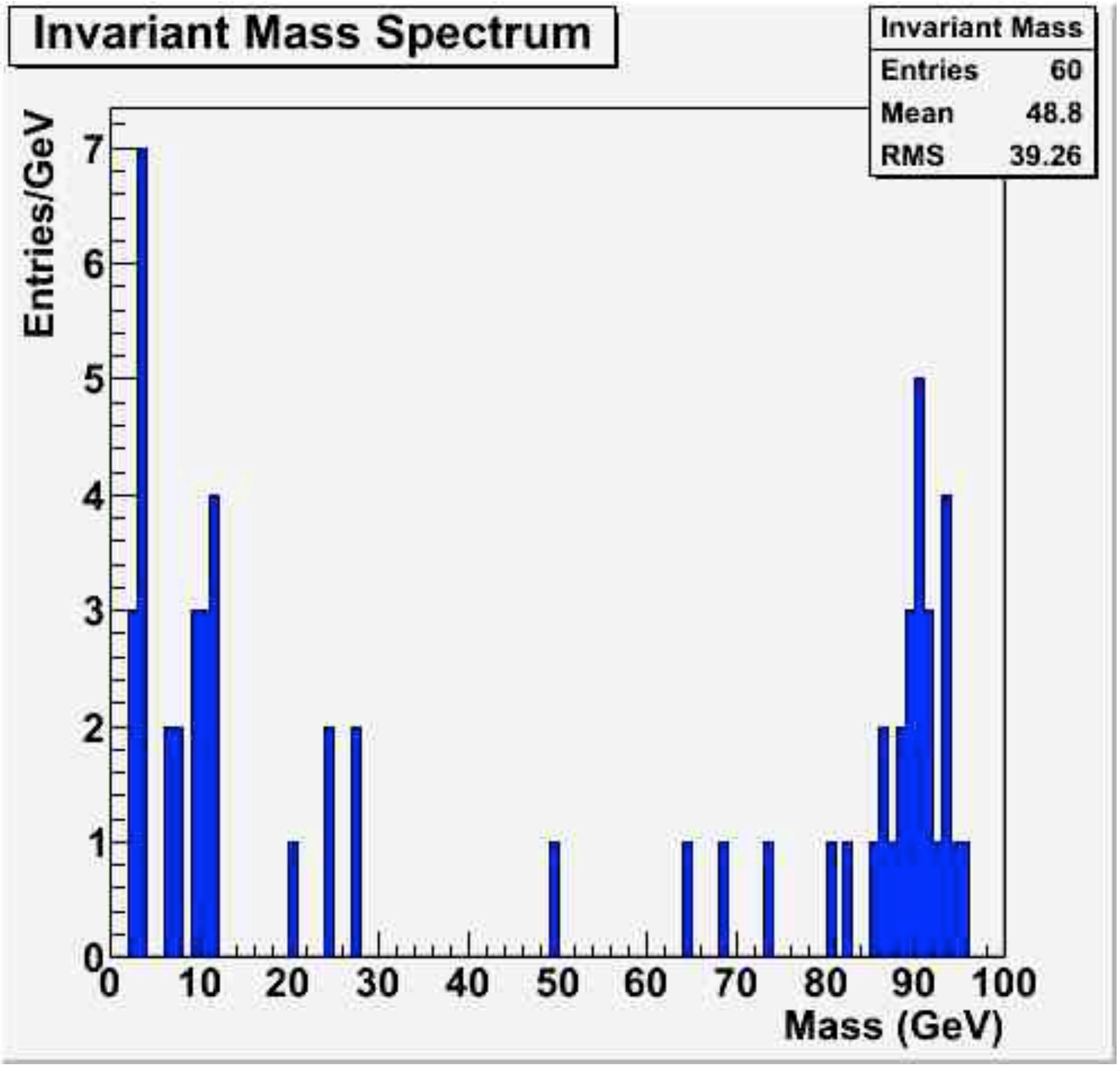
MASTERCLASS 2012 - TRIESTE

- we are 14 students from 5 high schools all around Friuli Venezia Giulia
- we teamed up in 7 groups, each examined 100 events to assess if they contained a Z or a W candidate
- each event was classified as electron or muon kind, or both.
- then we looked for missing energy. Some groups evaluated the amount of missing energy using iSpy and ignored it if below 11GeV
- events with missing energy have been labeled as W if they had one charged track, Zoo if they had more
- event with two letpons of the same flavour have been labeled as Z. We verified charge of tracks, when possible, and a few events with charge of the same sign have been labeled as Zoo.
- we collected all Z candidates from all groups and made a histogram of the invariant mass distribution
- we wandered why there are two peaks at far left and right
- our mentor explained that the peak at 90 GeV is the Z0, the one at 3 is the J/Psi
- we found it very difficult to tell positive from negative charge


Invariant Mass Spectrum
Invariant Mass
Entries 60
Mean 48.8
RMS 39.26
Entries/GeV
0
1
2
3
4
5
6
7
0 10 20 30 40 50 60 70 80 90 100
Mass (GeV)