# Updates on activities.
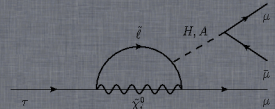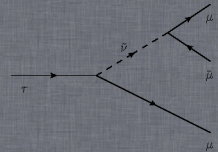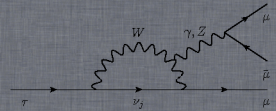
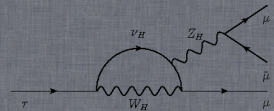Marcin Chrząszcz[1,2] , Nicola Serra[1]

[1] University of Zurich , [2] Institute of Nuclear Physics, Krakow,

March 11, 2014
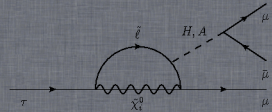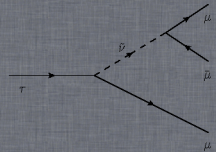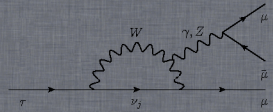
University of
Zurich[UZH]
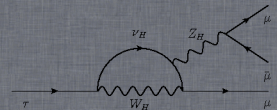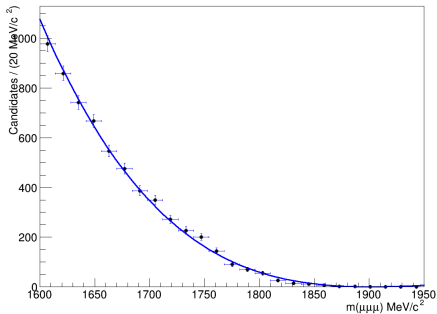
$\tau \to 3\mu$ many solutions

$B^0 \to K^* \mu\mu$

# $D_s \to \eta(\mu\mu\gamma)\mu\nu$

- In 2011 we cut away the $D_s \to \eta(\mu\mu\gamma)\mu\nu$ cuz we could not model it.
- Now we increased the statistics in our sample( $42fb^{-1}$).
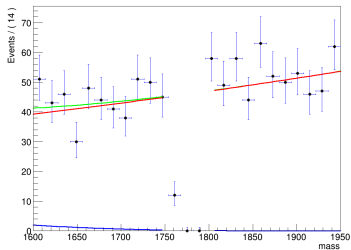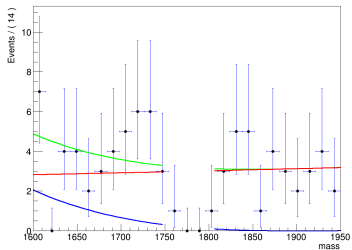- The $\eta$ shape fits very nicely.

# Fitting procedure

- Fix the $\eta$ shape from MC.
- For bin each calculate the corresponding $\eta$ yield(error is 23%)
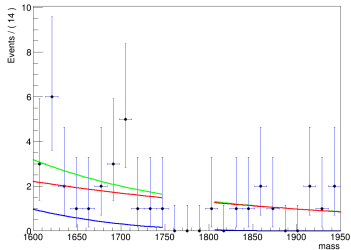- Constrain the yield by gauss+poiss.
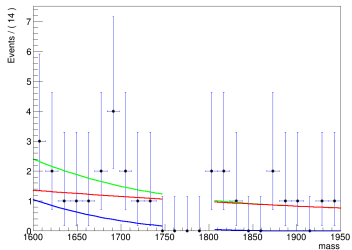- Allowe it to fluctuate by $3\sigma$
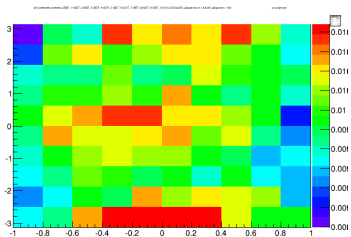
# Results

# Fitting procedure

- Looks like we can now leave the $\eta$ and not cut inside Dalitz
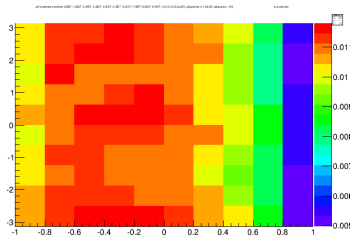- Wider NP access.

# Normalization

- Since I think I solved all the problems with 2011 limit i moved to 2012 data.
- Finished last round of simulation with different TCK(death to trigger people, who changed the trigger so many times)
- Normalization $\alpha$ is 2.2$\times$ better in 2012 then in 2011.

# $B^0 \to K^* \mu\mu$ unfolding

- One of the possible ways to unfold $B^0 \to K^* \mu\mu$ with event weighting.
- First attempt is to make 3D histogram for each $q^2$ bin.



$\tau \to \mu\mu\mu$

$D_s \to \phi(\mu\mu)\pi$