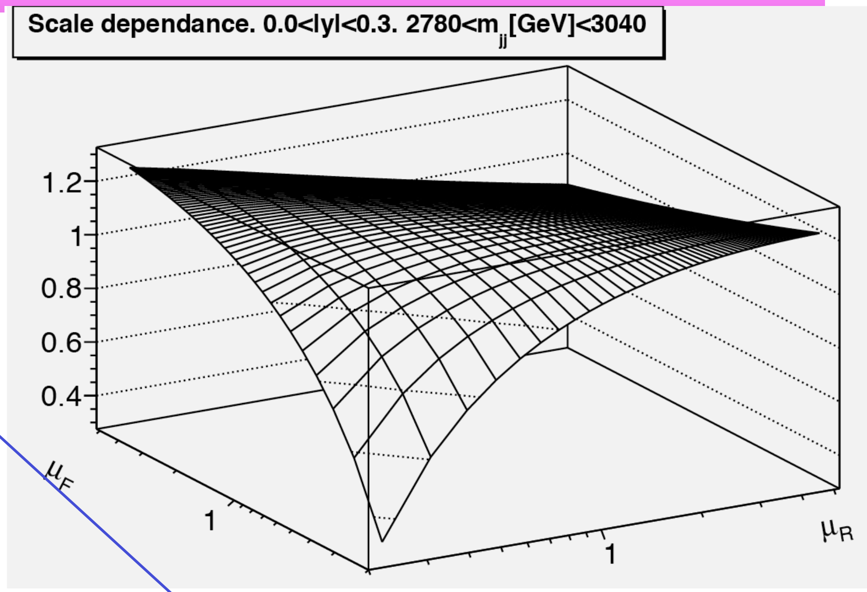
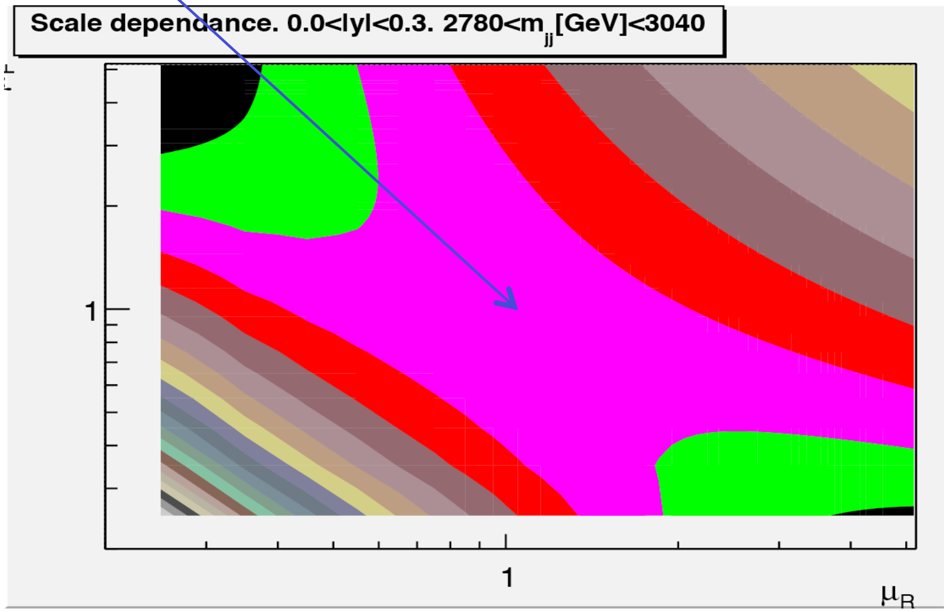
Now look at the dijet mass cross section

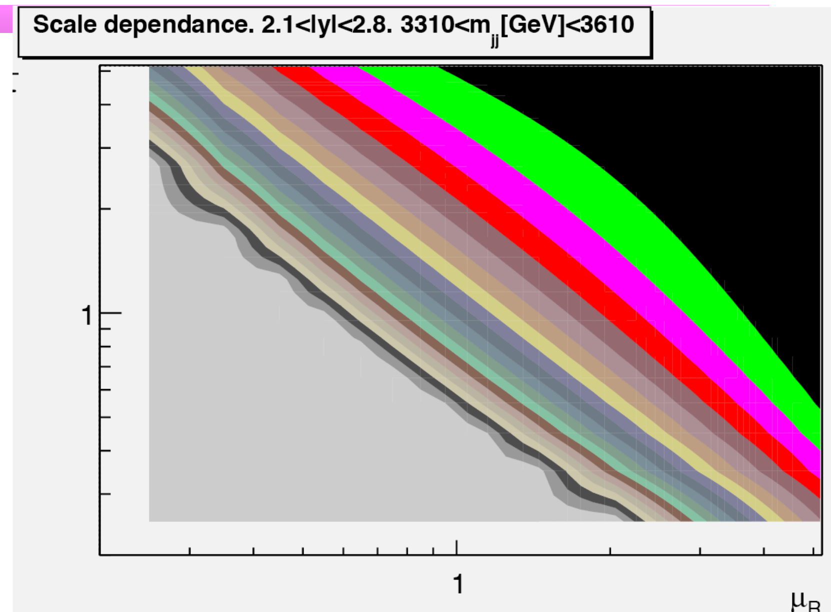
- In most cases, get a nice saddle region around p_T^{jet}

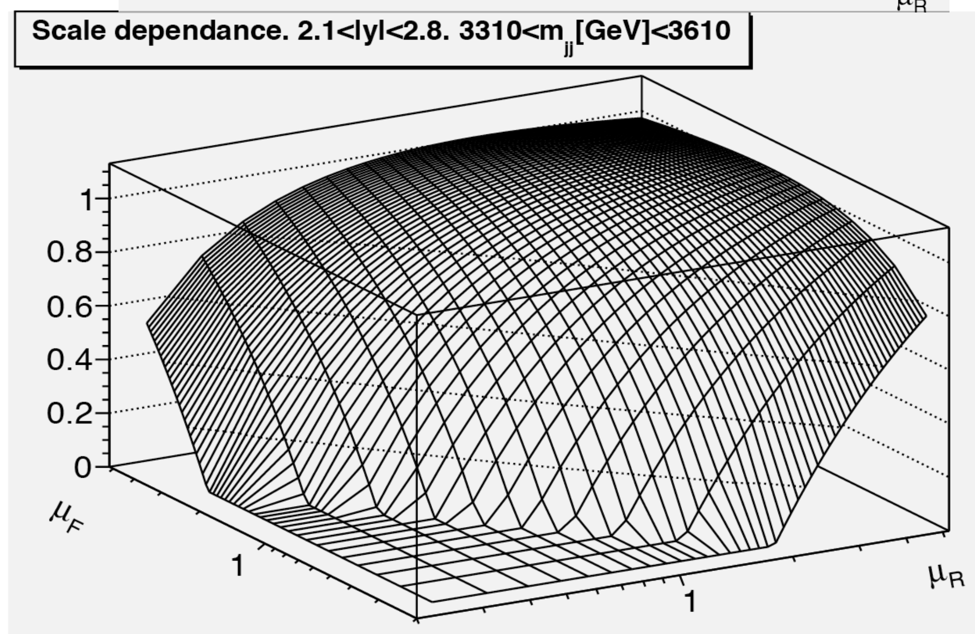




…but not for forward rapidities

- Is perturbation theory not valid here?
- It's ok as long as *reasonable scales* are chosen
- It's a continuation of the effect that we've been looking at
- NB: y* seems to be worse than ymax





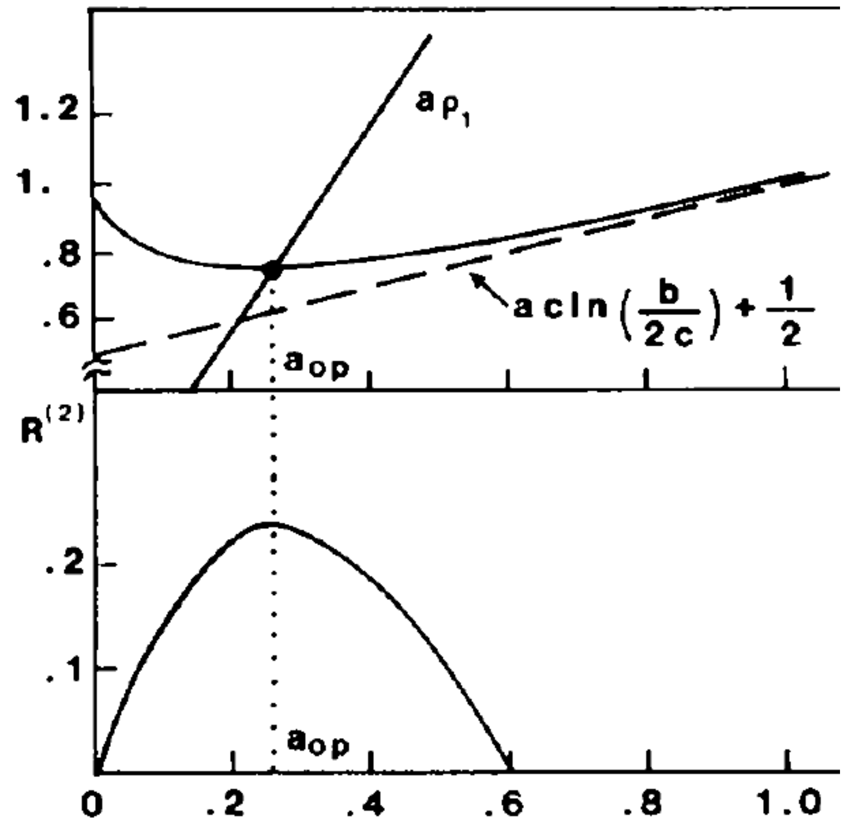
Looking for saddle points

- Can find saddle point analytically by solving a transcendental equation

$$\tau + \frac{1}{2}\frac{c}{1+ca} = \rho_1$$

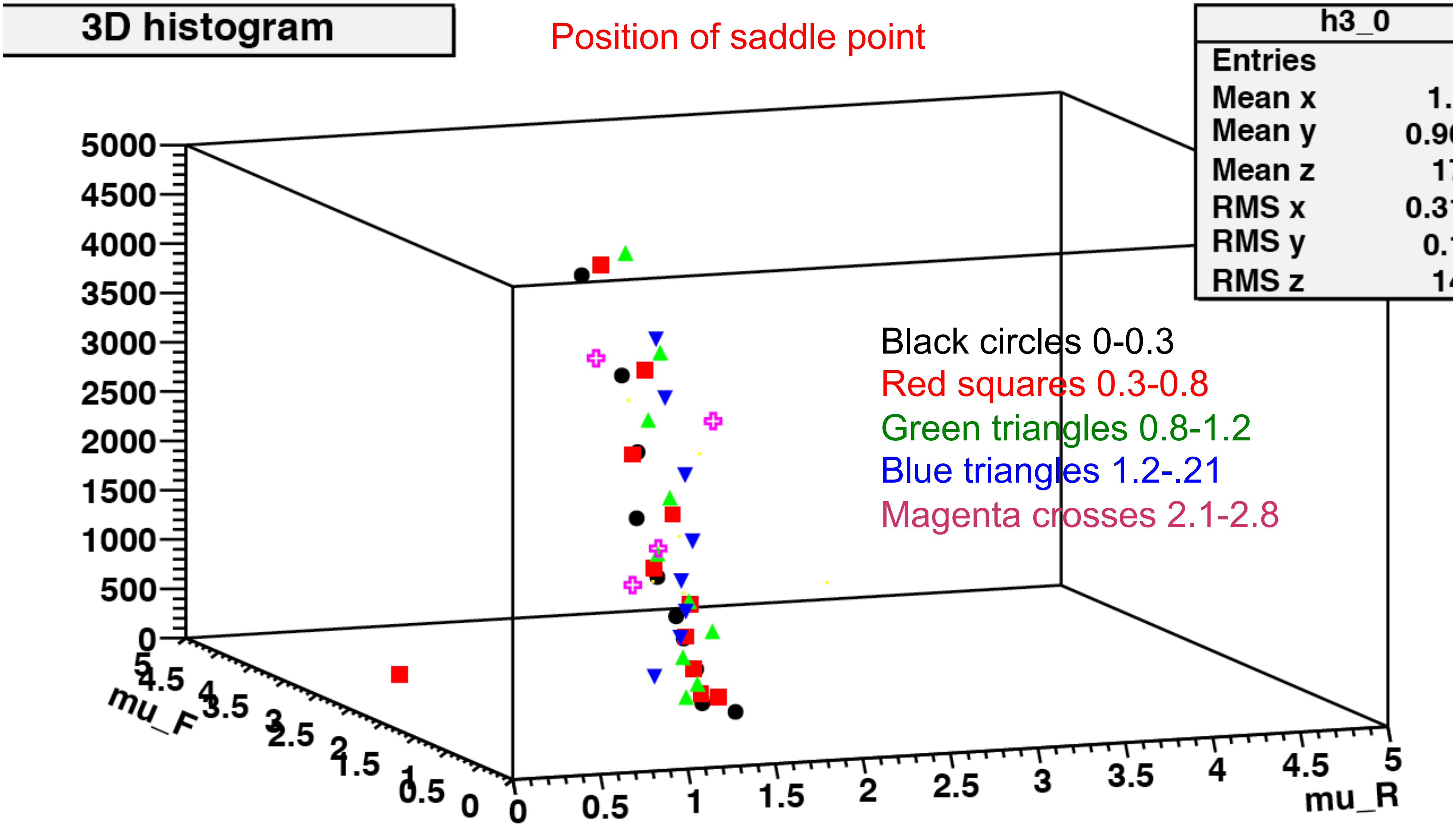
- …where ρ_1 is a dimensionless form of the jet cross section, and τ depends on the scale μ and on Λ
- But can also use a python script

P. Aurenche et al. / Higher order QCD prediction

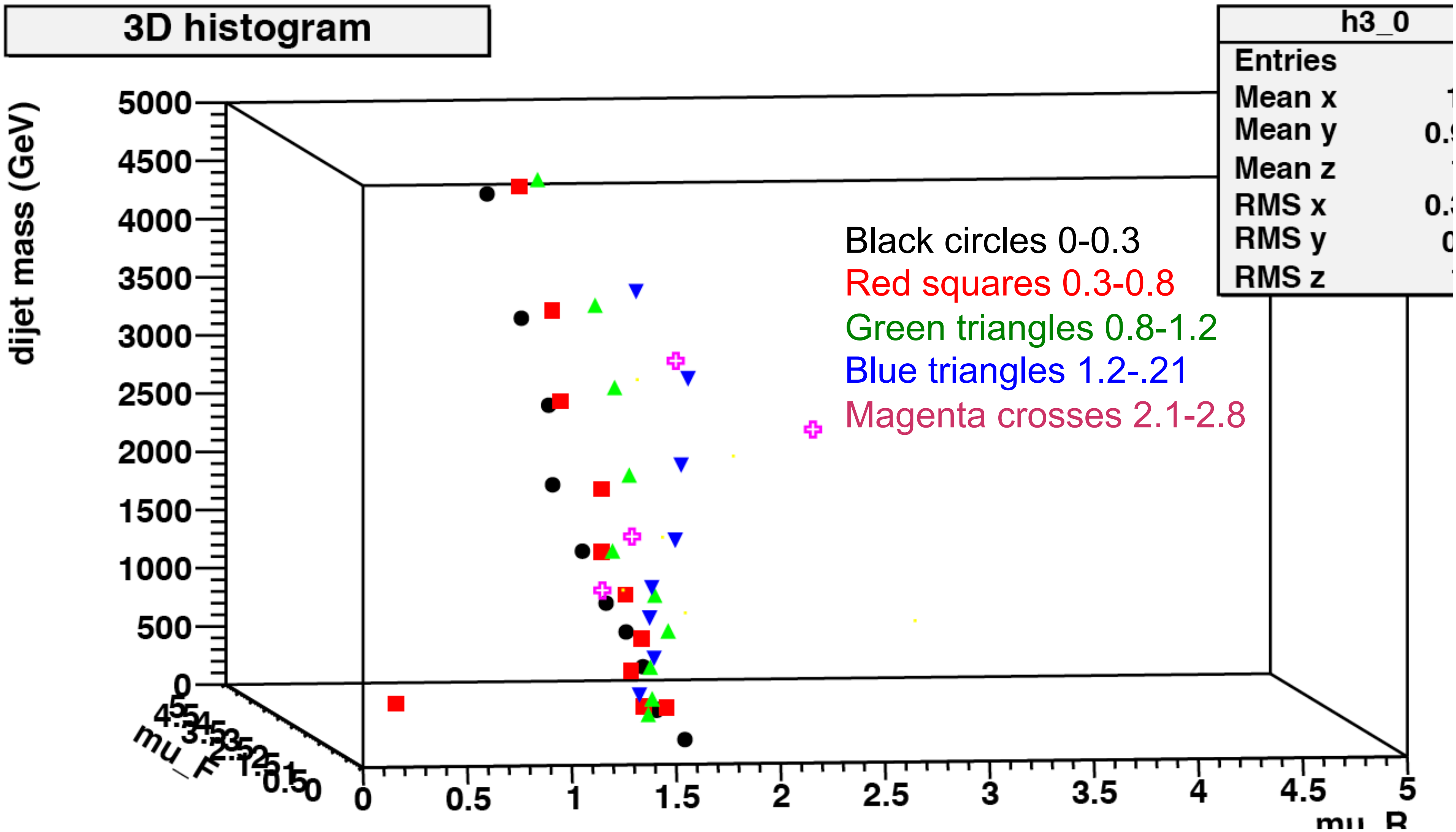


tion of Stevenson's equation for a_{op}; (b) plot of th
a function of a.

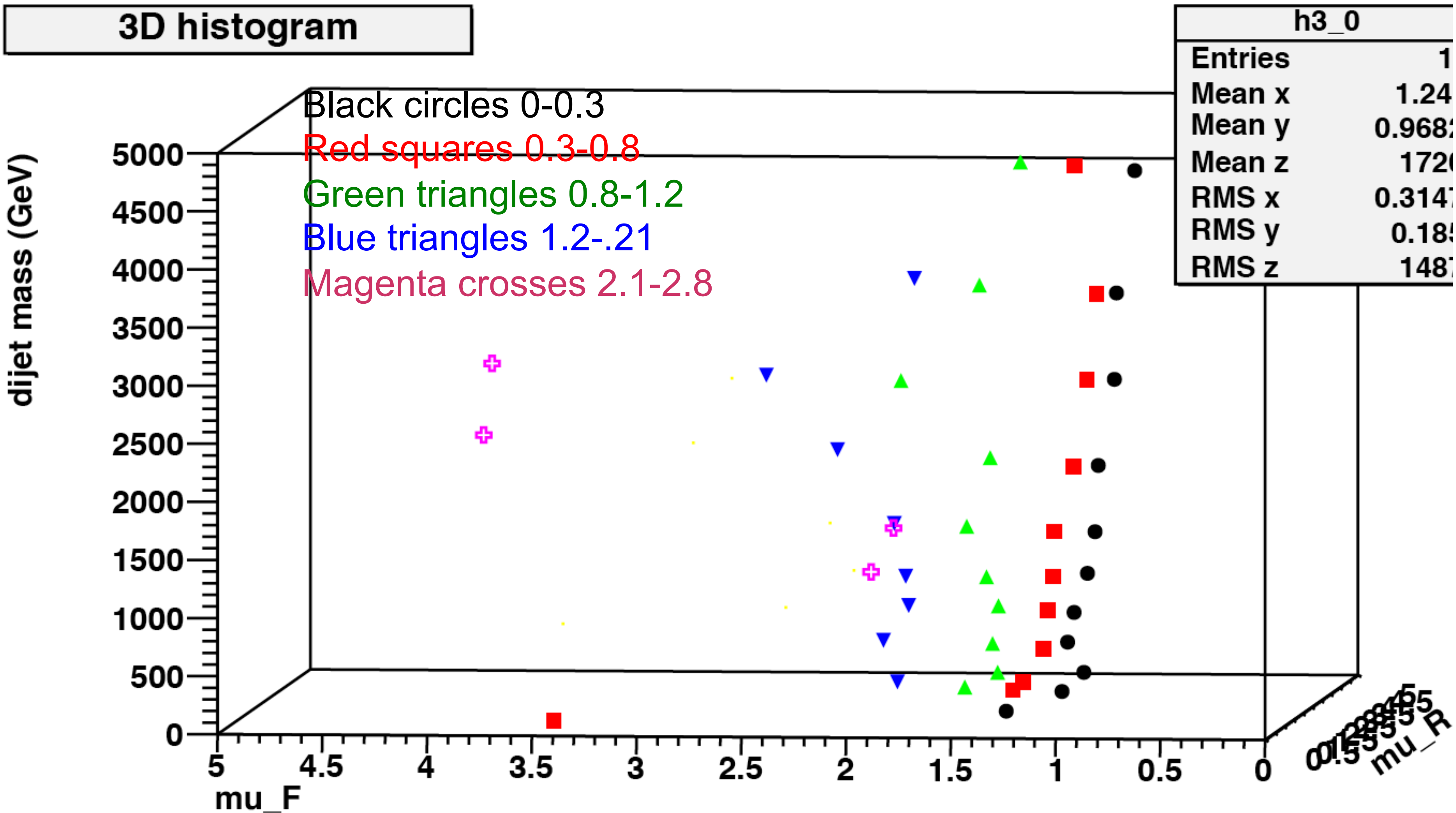
Dijet cross section (R=0.4, y*)



μ_R increases with y*



μ_F increases with y*



Note: maybe no true saddle points at high y* and high mass, so script has trouble finding them; there are still flat places