

Acceptance Check

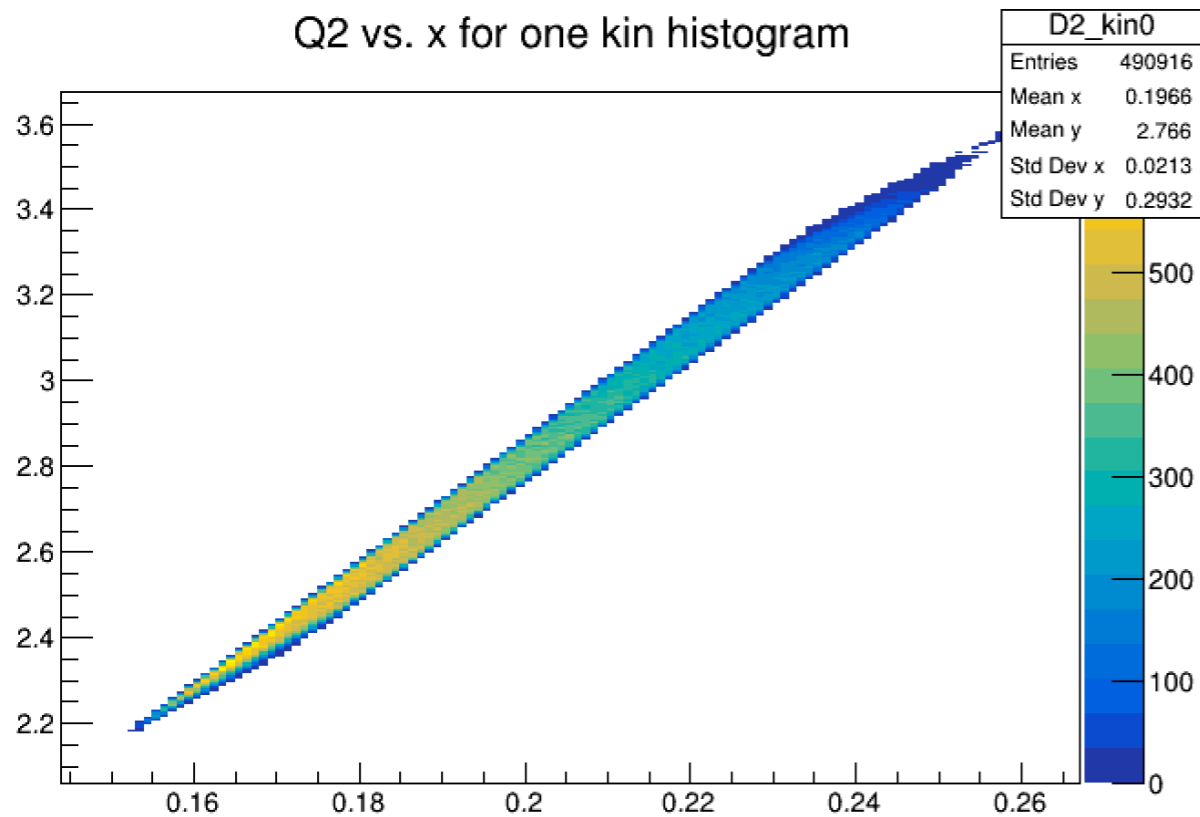
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Purpose:

Prove that the acceptance function is the same for different gas targets, so it can be canceled in ratio.

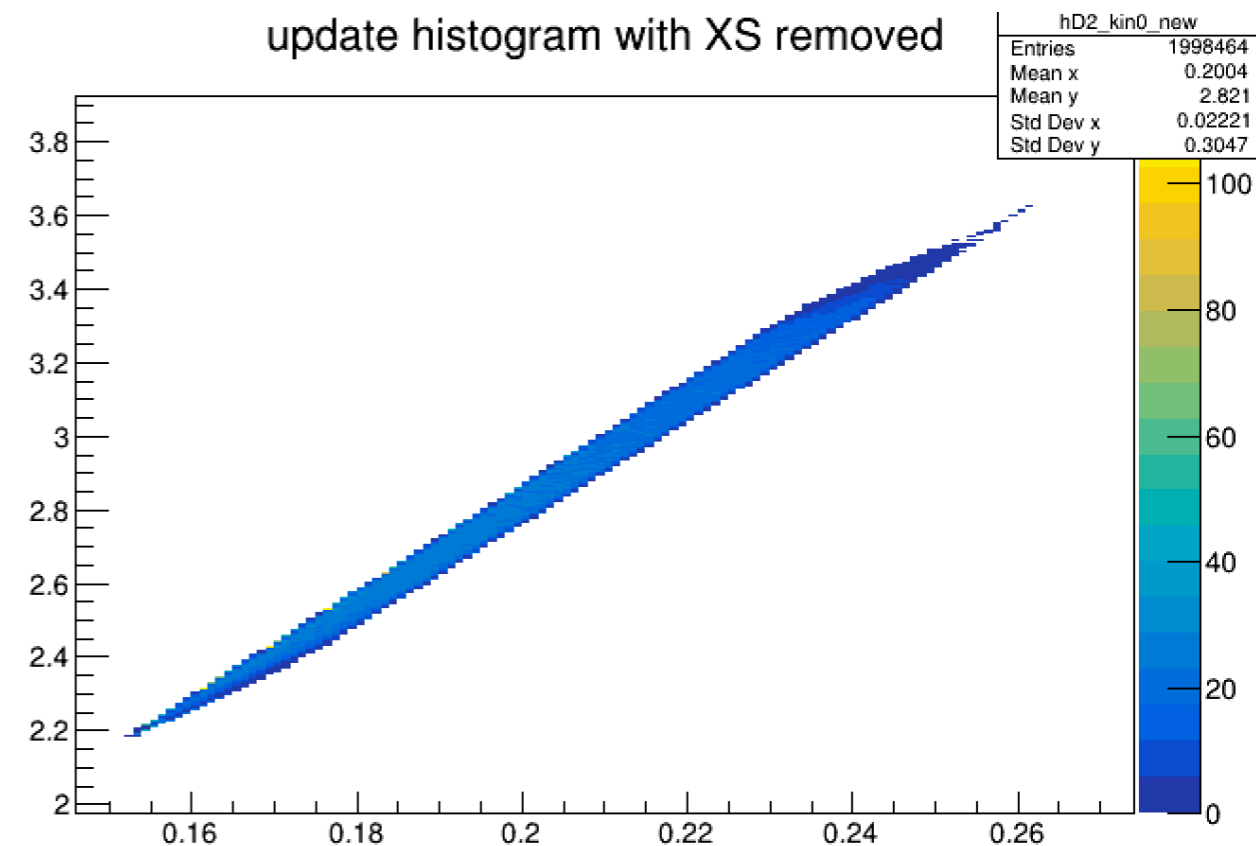
Method:

1. $\text{Yield} \propto \text{ACC} \times \sigma \longrightarrow \text{ACC} \propto \text{Yield} / \sigma$
2. ACC for one target could be gotten by plotting $(x, Q2)$ or (v, θ) distribution, then divided each bin by the its radiative cross section. (use Bodel model)

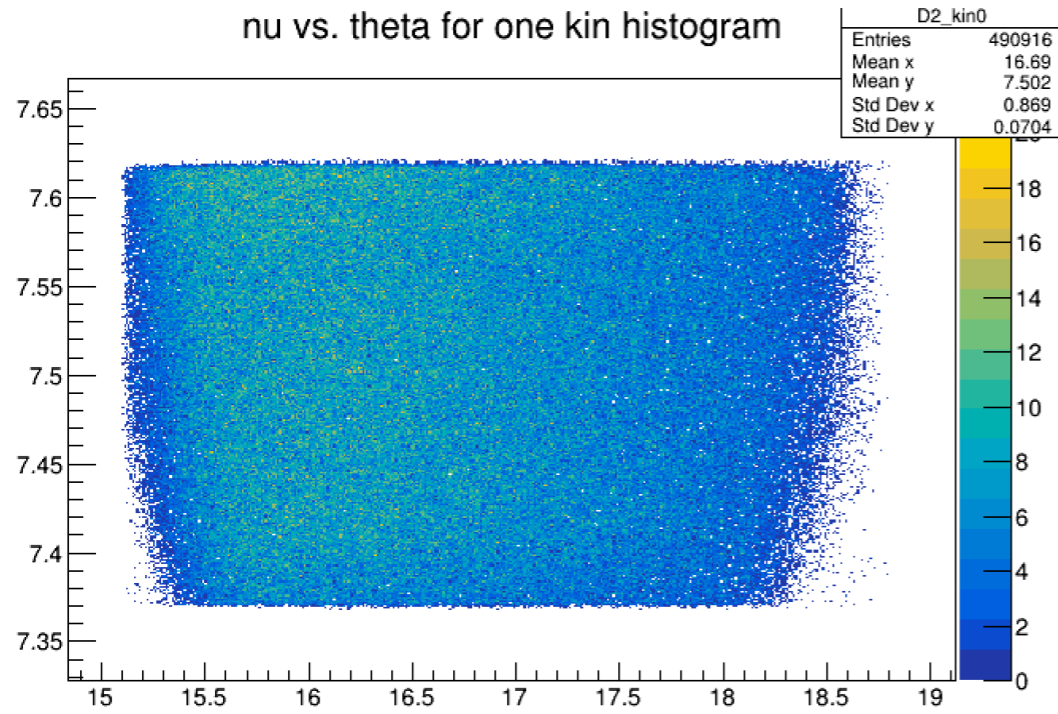


The acceptance function bin in Q2 is small, which results in a big uncertainty on the ratio at the edge and is unable to see the expected flat area of ACC

divided by radiative cross section



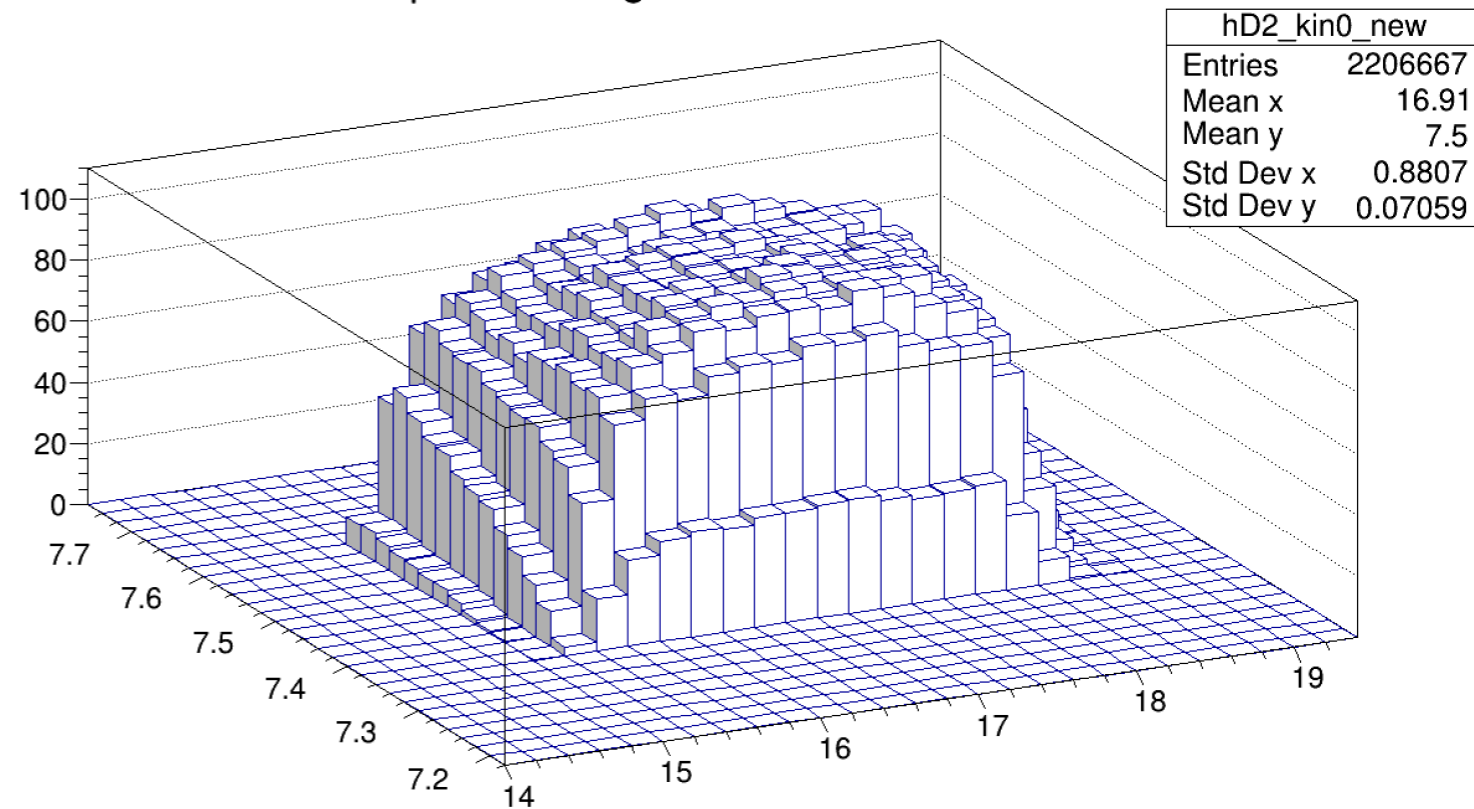
nu vs. theta for one kin histogram



**divided by radiative
cross section**

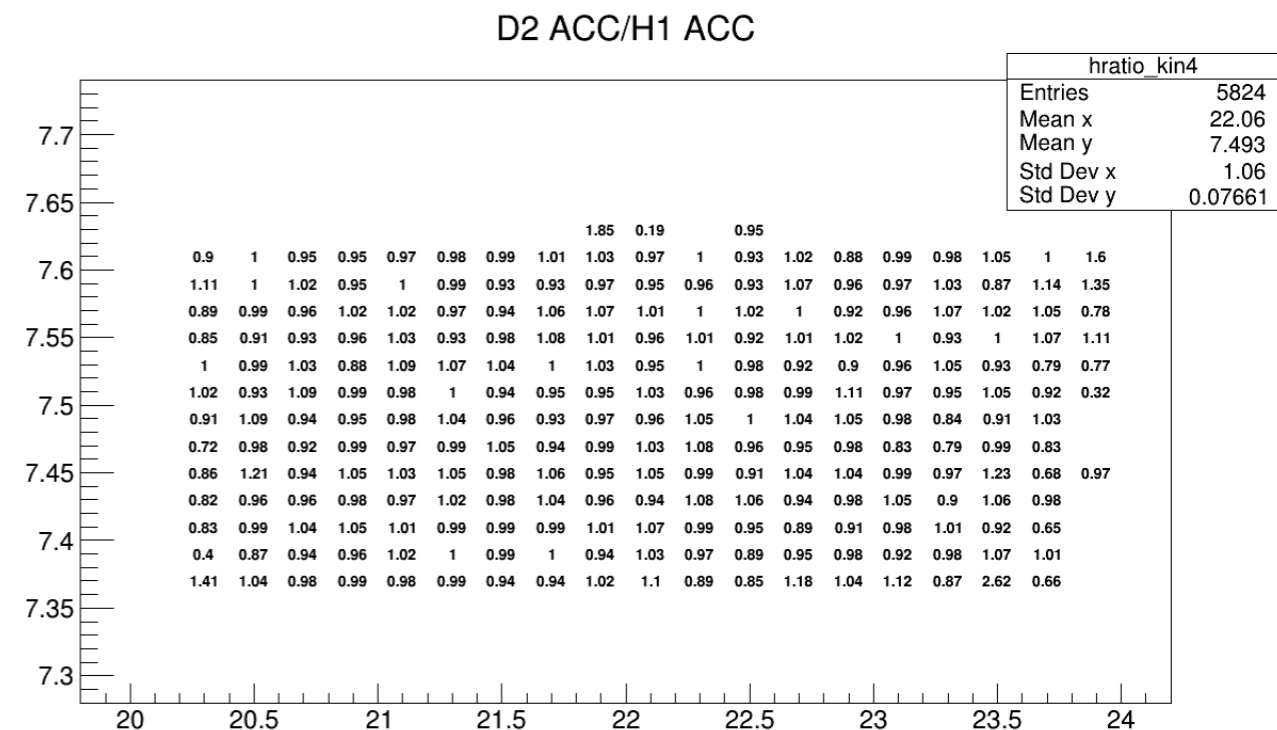
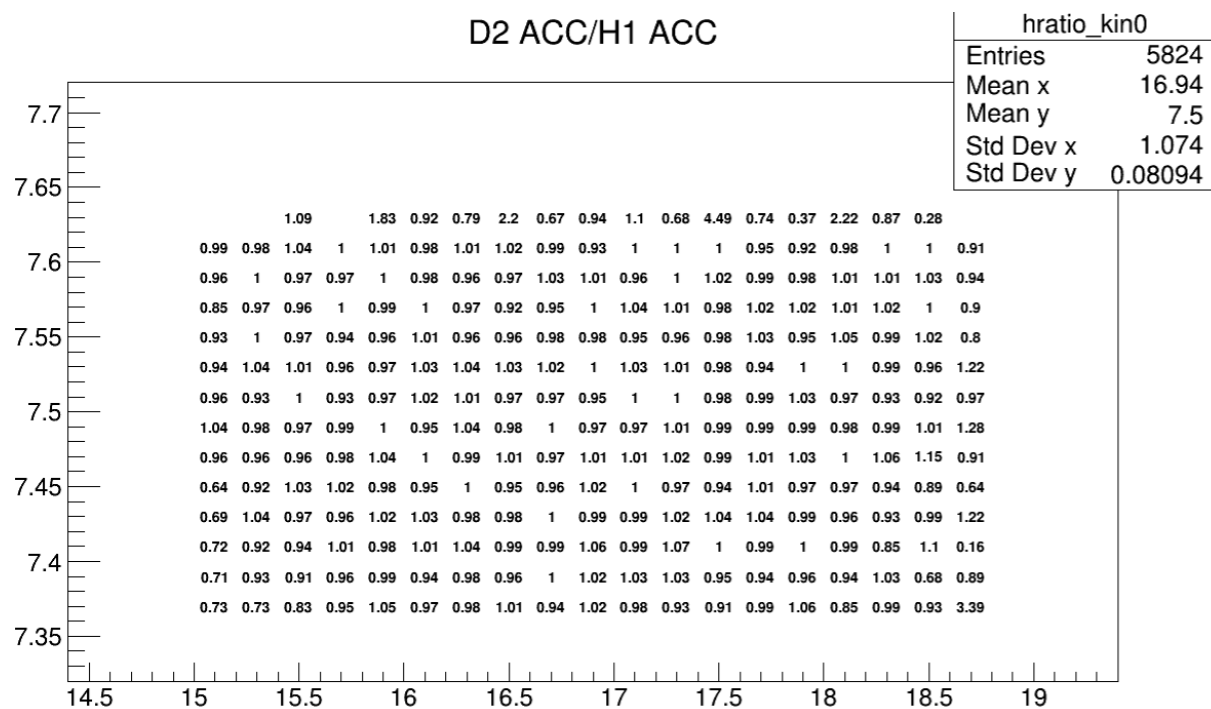
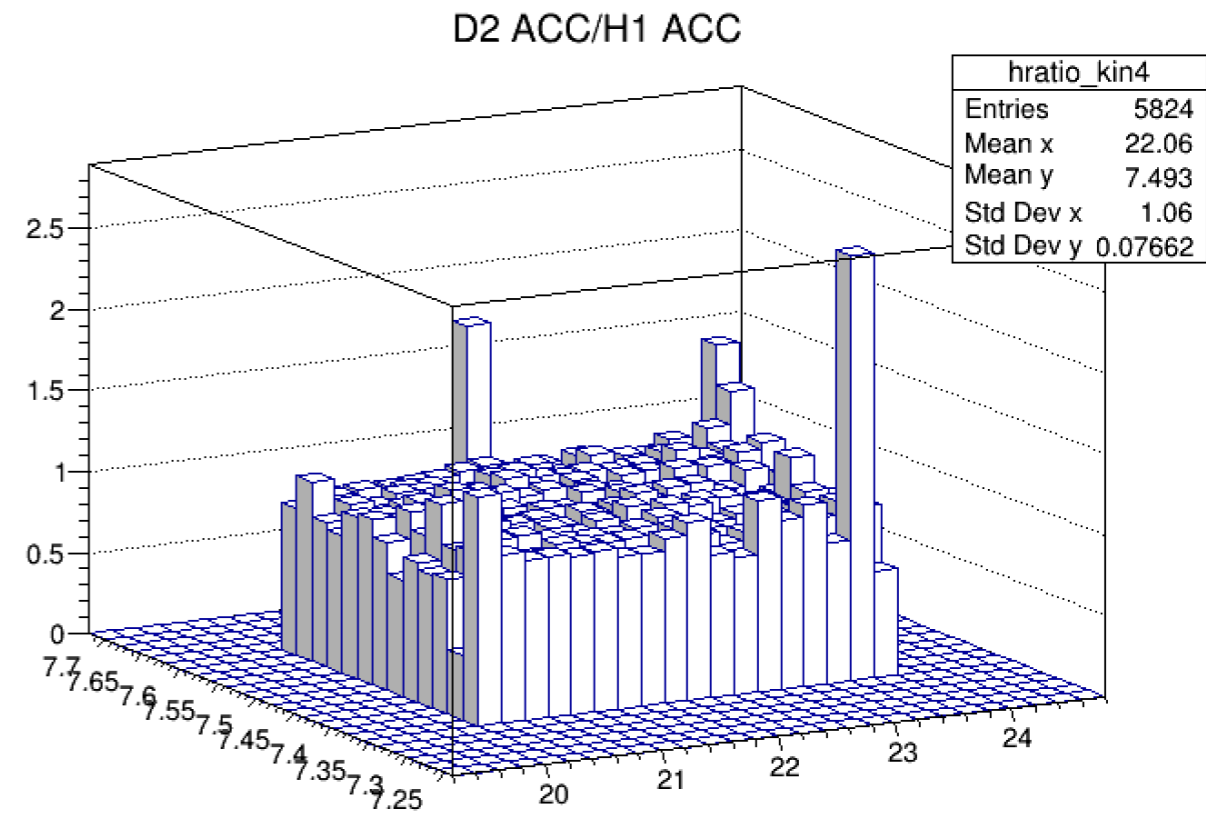
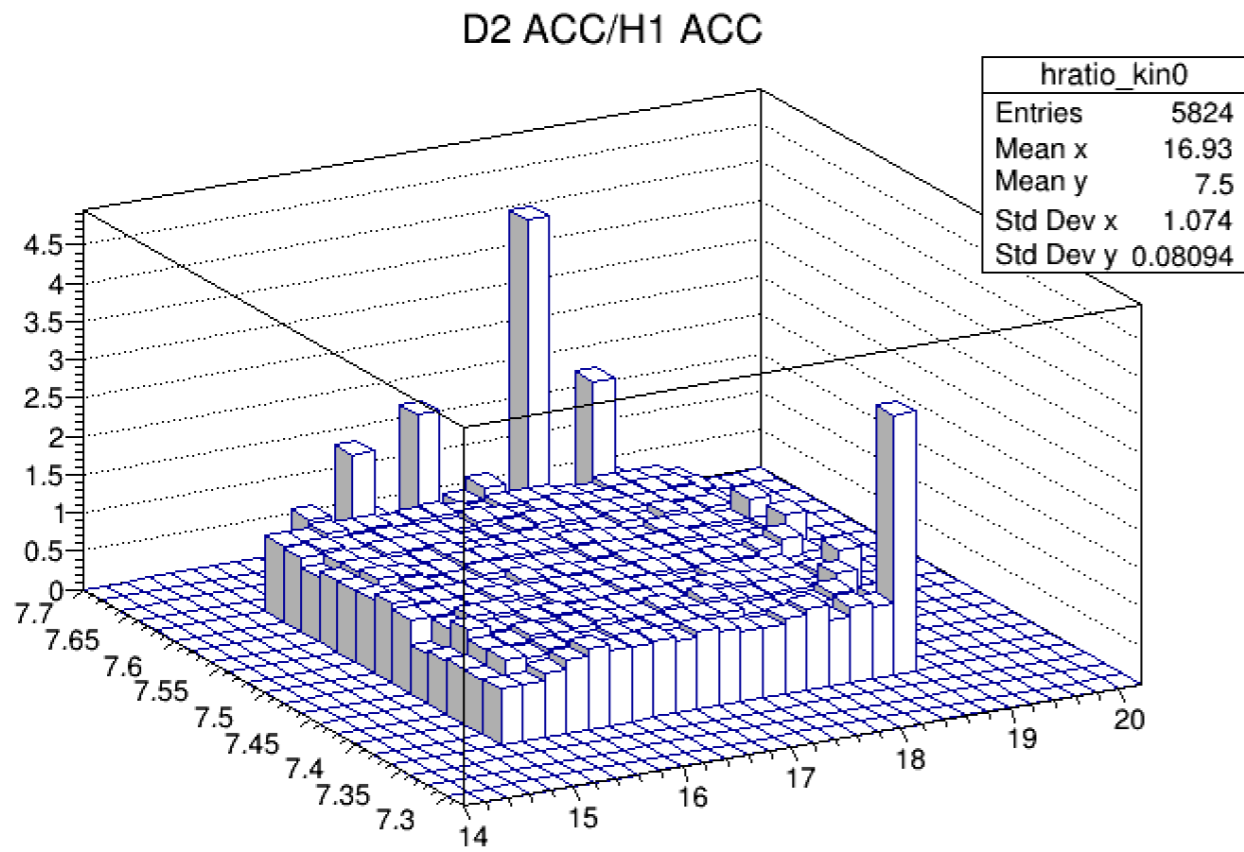


update histogram with XS removed



**each bin is normalized by the
maximum content**

3. Divide D2 acceptance function by H1 acceptance function:



Conclusions:

1. The acceptance distribution looks reasonable;
2. The acceptance distribution between two targets are almost the same;
3. Maybe we should cut the edge events to get rid of poor acceptance.