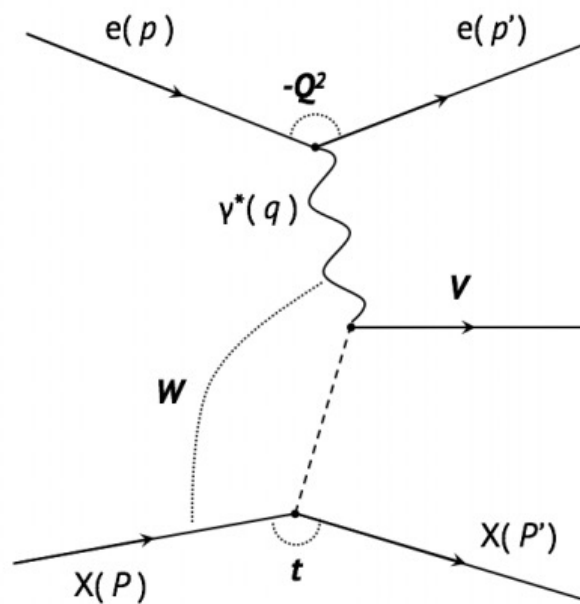
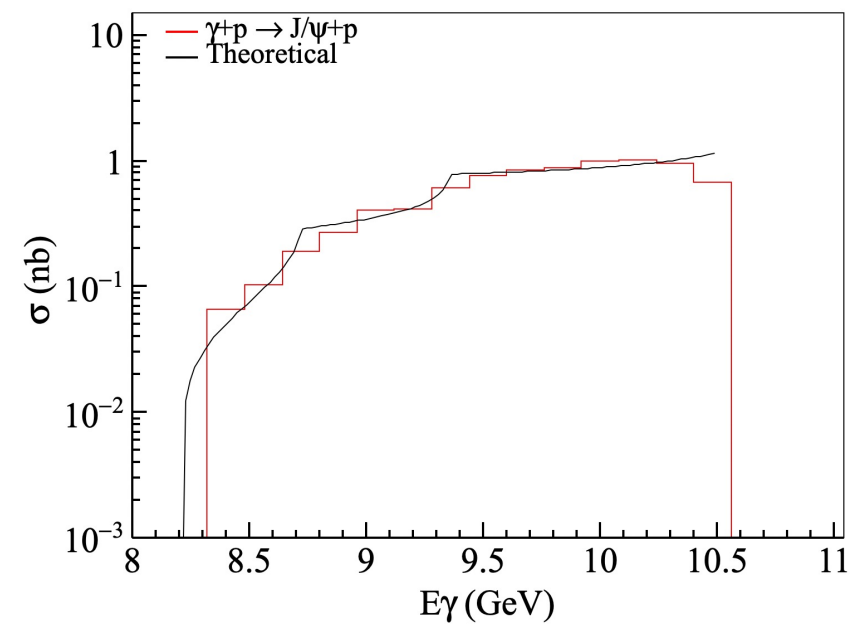
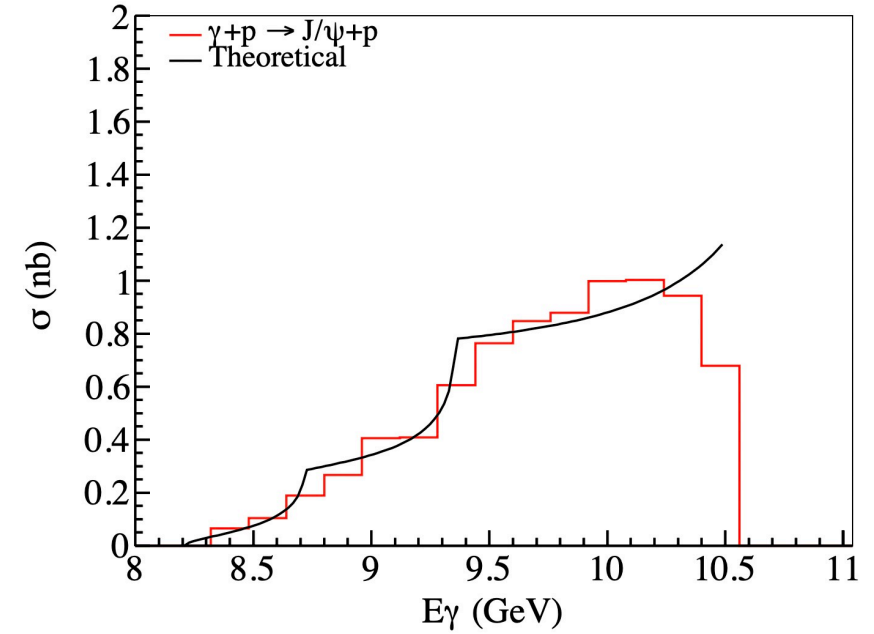
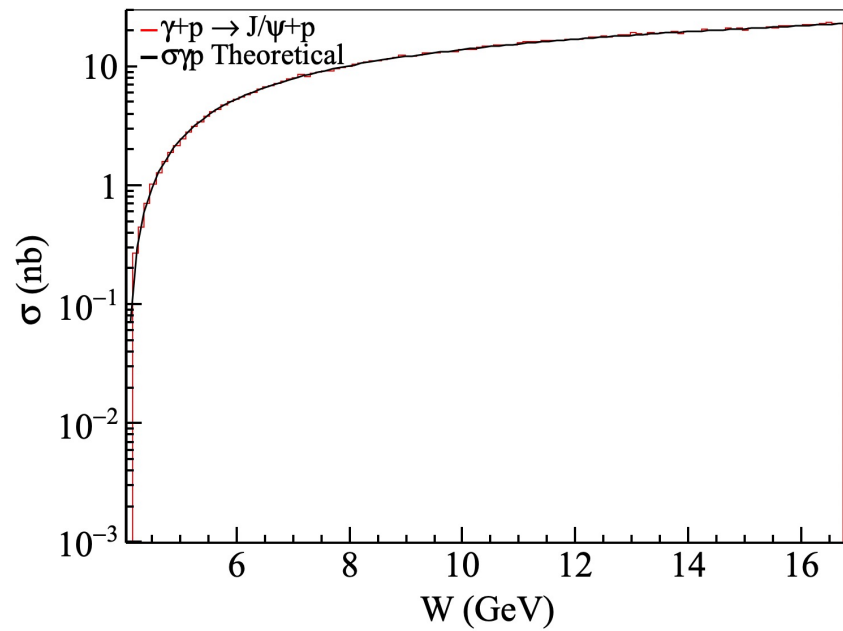
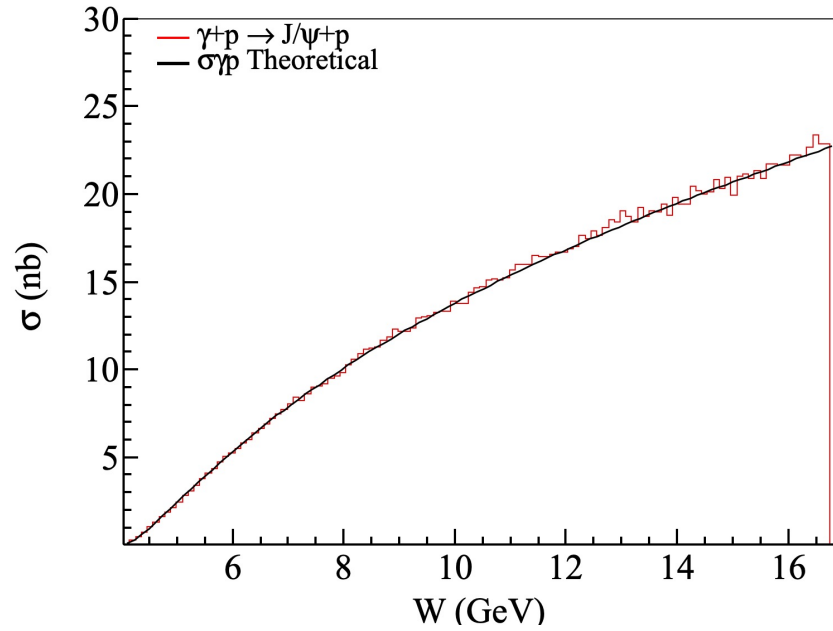


Outline

- **Introduction**
- **Research progress**
- **The next steps**



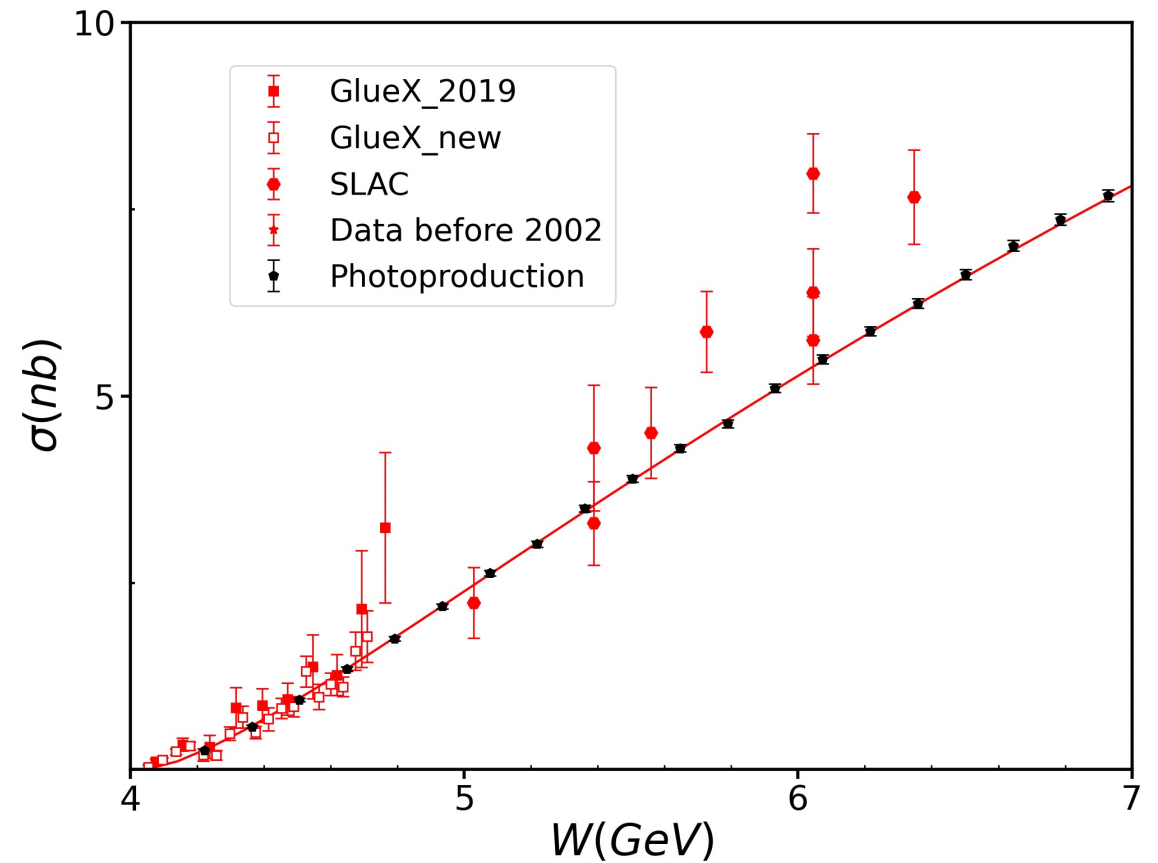
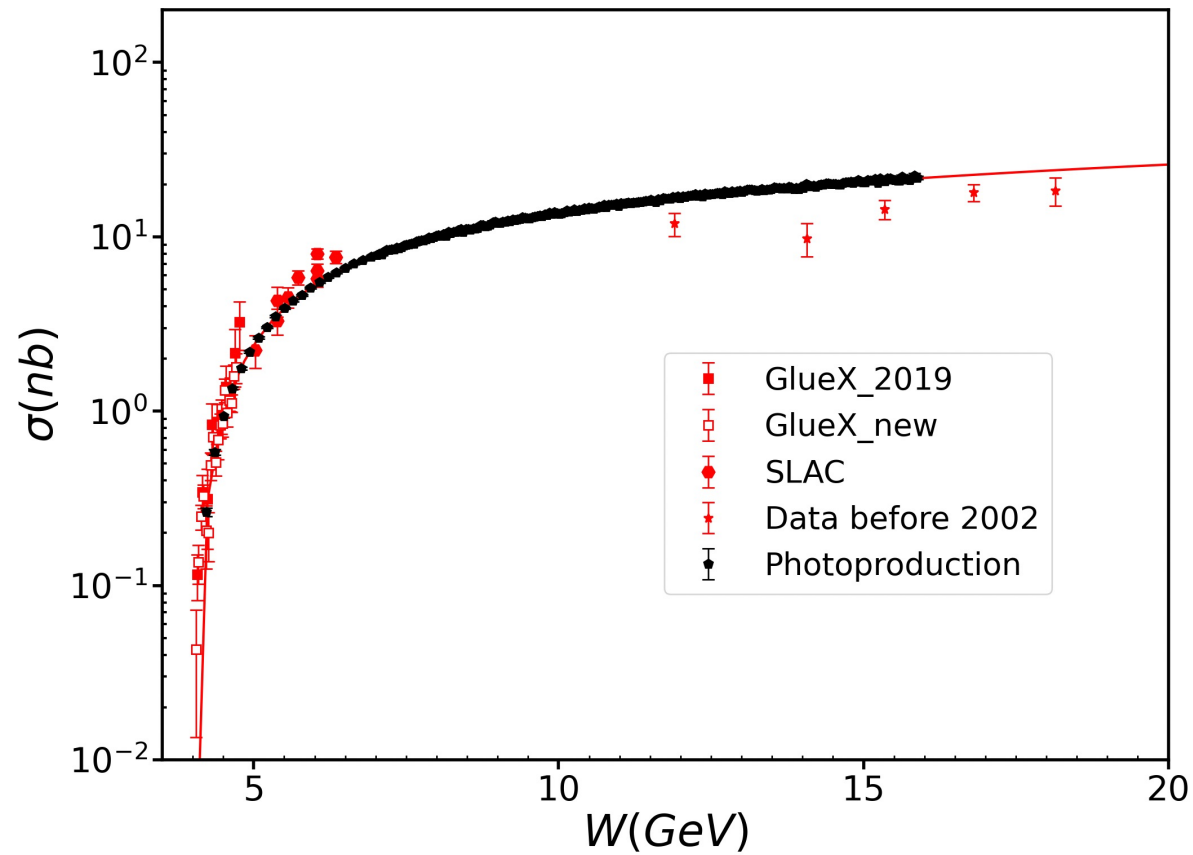
- 用eSTARlight进行EicC上 $e+p \rightarrow e+J/\psi+p$ 产生过程的模拟；
- 通过模拟得到末态产物的运动学特征，估计探测器的探测效率；
- 结合理论计算结果得到EicC实验上可以观测到信号的事例数。



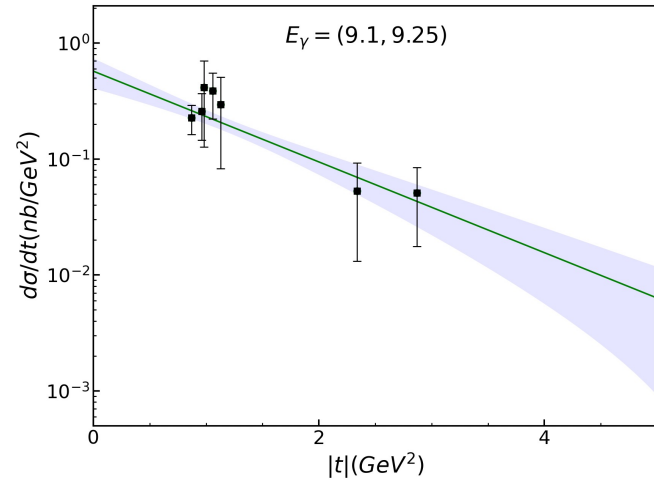
Events: $46890\text{fb} \cdot 50\text{fb}^{-1} = 2344\ 5000$

$$\sigma(E_{\gamma p}) = C_0 \left(1 - \frac{(m_p + M_{J/\psi})^2}{E_{\gamma p}^2} \right)^{1.5} \left(\frac{E_{\gamma p}^2}{100^2 \text{GeV}^2} \right)^\delta$$

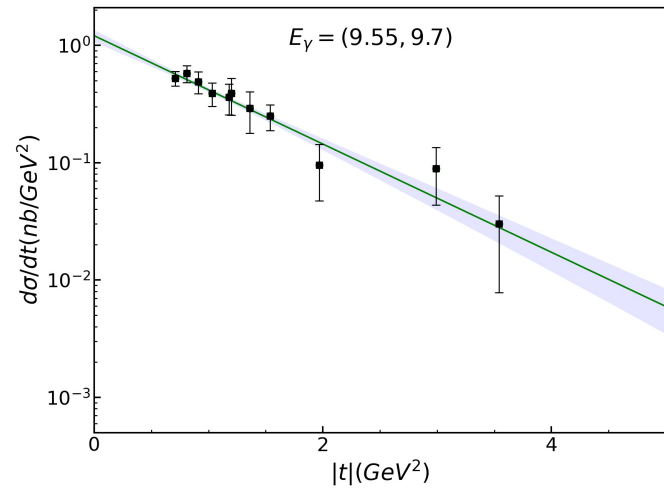
$C_0 = 0.3127; \delta = 75.604$
 $\text{Chi-Sqr} = 2.4$



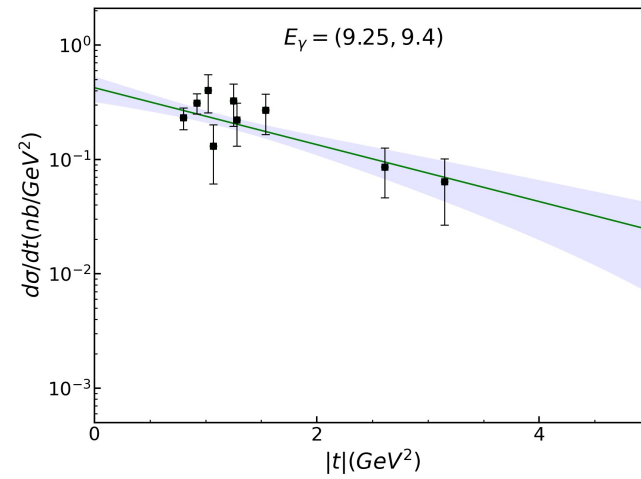
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	0.571933	0.149825	3.81735	0.0124066	0.42251318 19784934
b	0.90108	0.198524	4.5389	0.00617491	



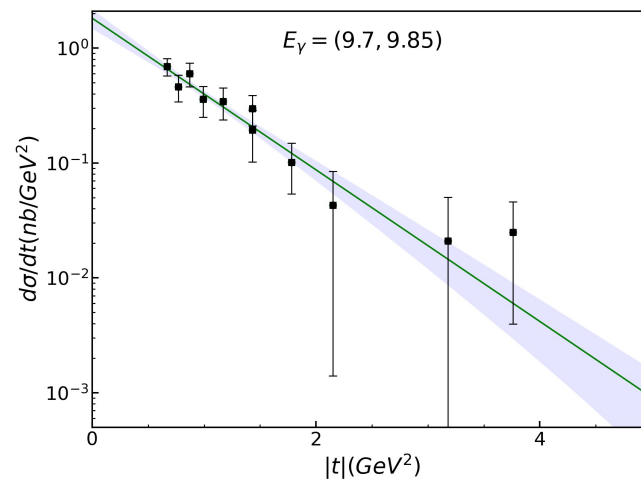
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.20661	0.133494	9.0387	8.24343*1e-6	0.3937057960 258695
b	1.06232	0.098436	10.792	1.89079*1e-6	



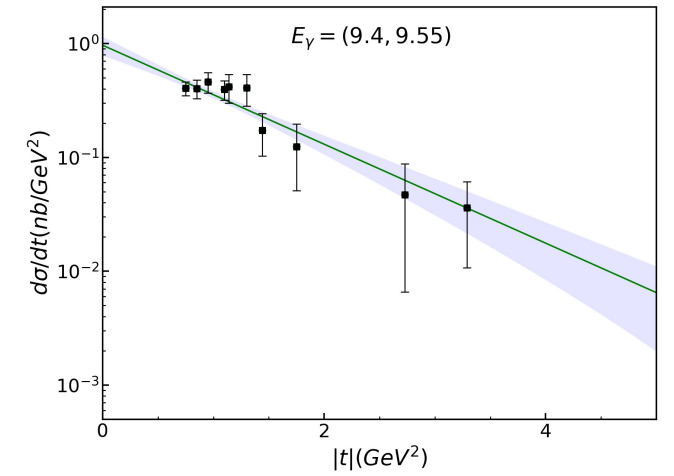
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	0.423253	0.0982623	4.30738	0.00353445	0.9336057402 032157
b	0.572931	0.173347	3.30511	0.0130289	



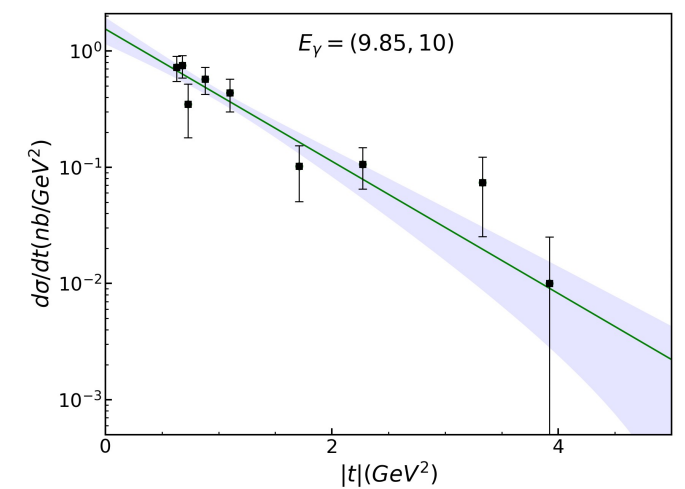
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.8172	0.329869	5.50886	0.000375853	0.4849270834 725321
b	1.51913	0.171788	8.84306	9.85728*1e-6	



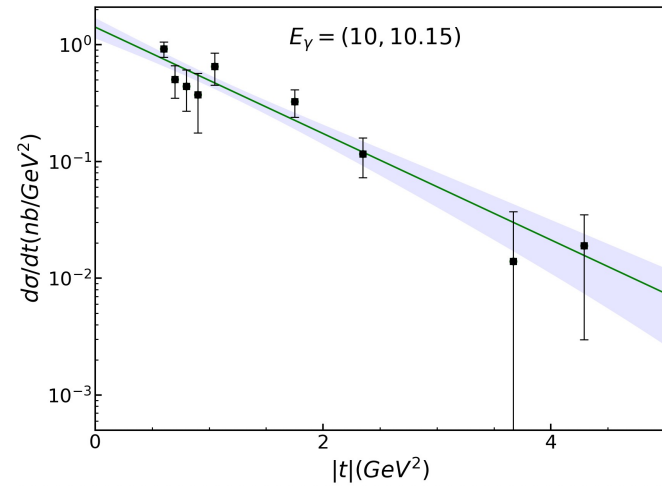
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	0.966043	0.170035	5.68145	0.000464213	0.7441955000 842171
b	1.00082	0.162256	6.16817	0.000268601	



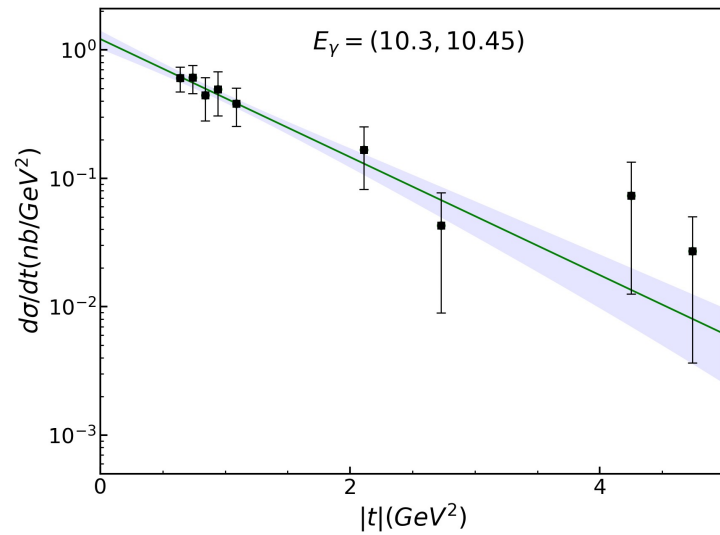
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.54158	0.369748	4.16927	0.00419295	0.9153248063 051657
b	1.3092	0.215318	6.08031	0.000500714	



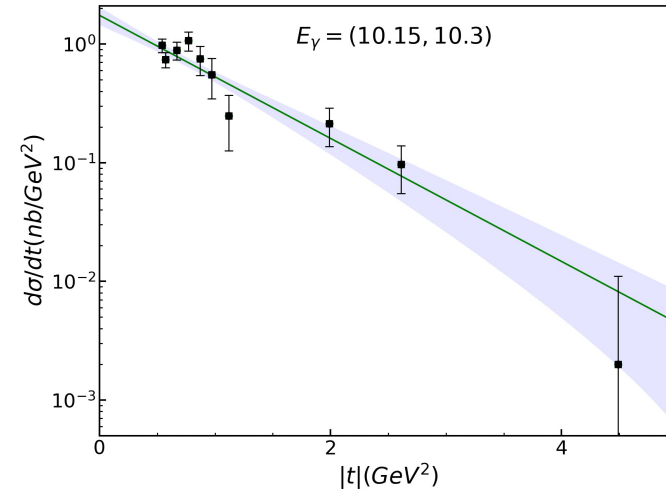
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.41121	0.259576	5.43661	0.000969743	1.0219190027
b	1.04872	0.147109	7.12889	0.000188816	328142



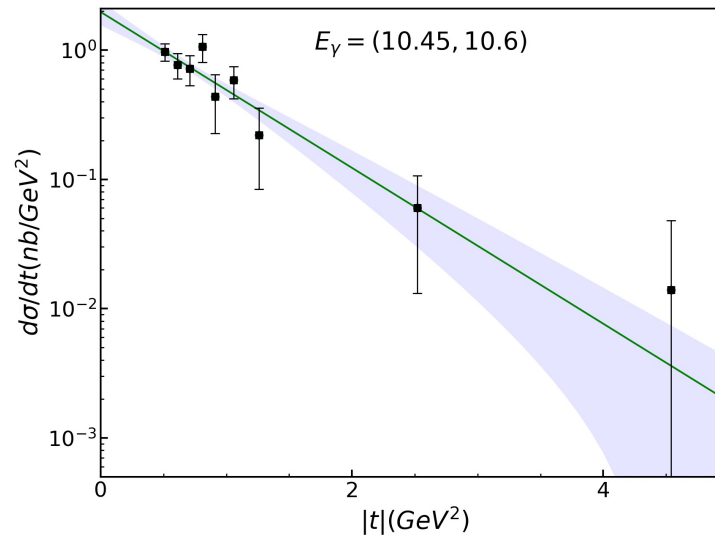
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.21252	0.181987	6.66269	0.000287139	0.3766079277
b	1.05807	0.134565	7.86285	0.000101773	5481355



	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.74419	0.283146	6.16002	0.000271006	1.3399963235
b	1.19402	0.189772	6.29187	0.000234837	242032



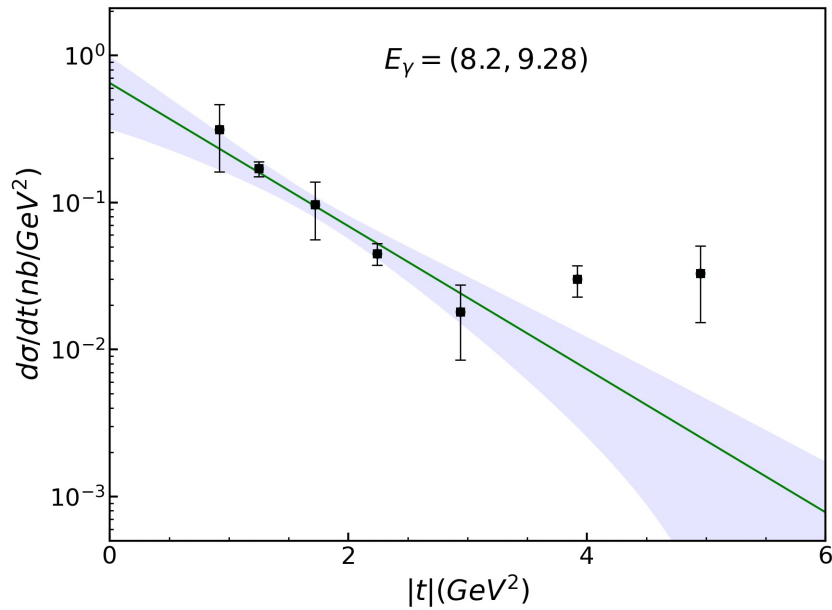
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.97067	0.385985	5.10555	0.00139089	0.6788144681
b	1.38818	0.252808	5.49105	0.000915174	9537



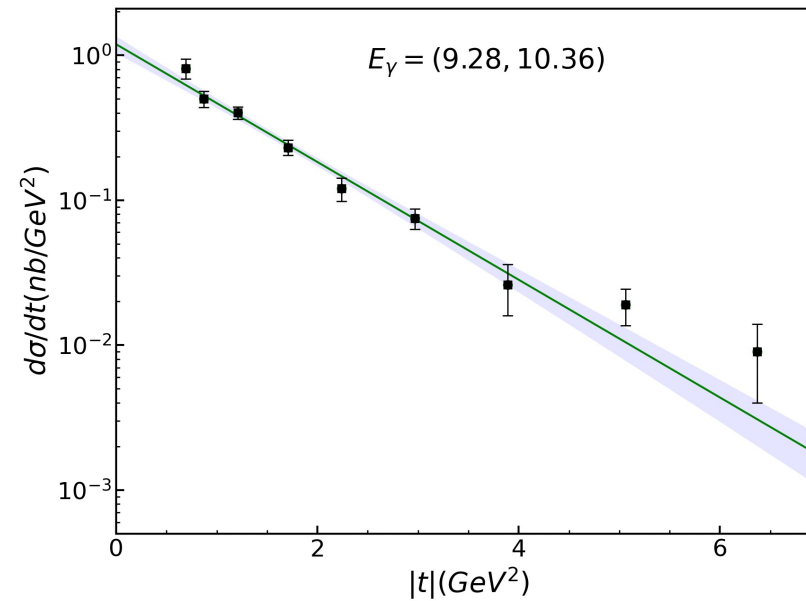
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	0.649307	0.30088	2.15802	0.0833951	2.84976307 53905714
b	1.12041	0.252108	4.44417	0.00673872	

	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	1.18903	0.146832	8.09791	0.0000843305	1.19219108 30023836
b	0.935109	0.0669086	13.9759	2.27259*10 ⁻⁶	

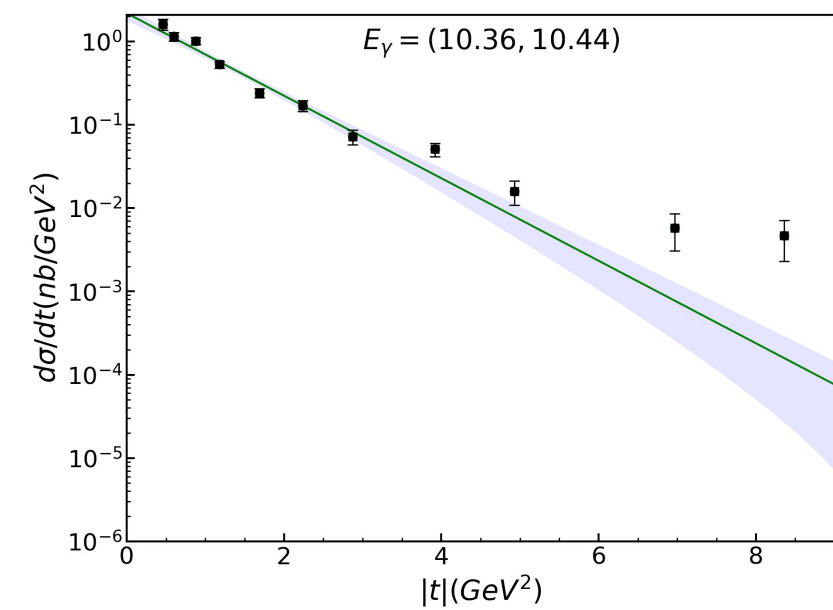
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	2.18721	0.386892	5.65328	0.000312296	3.60984263 73984984
b	1.14039	0.111903	10.1908	3.05656*10 ⁻⁶	



8.93 GeV. 4.199749262



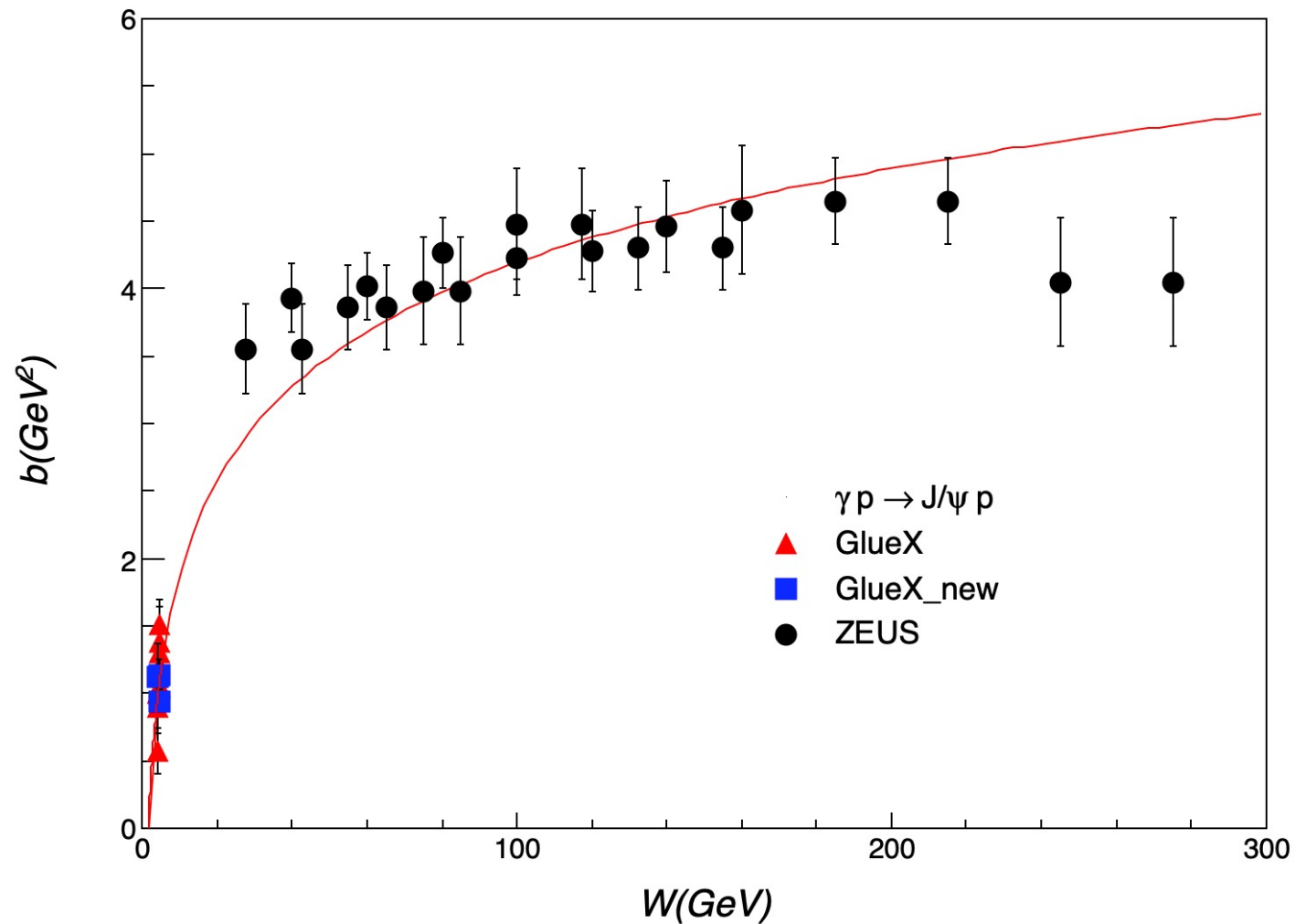
9.86 GeV. 4.402621939

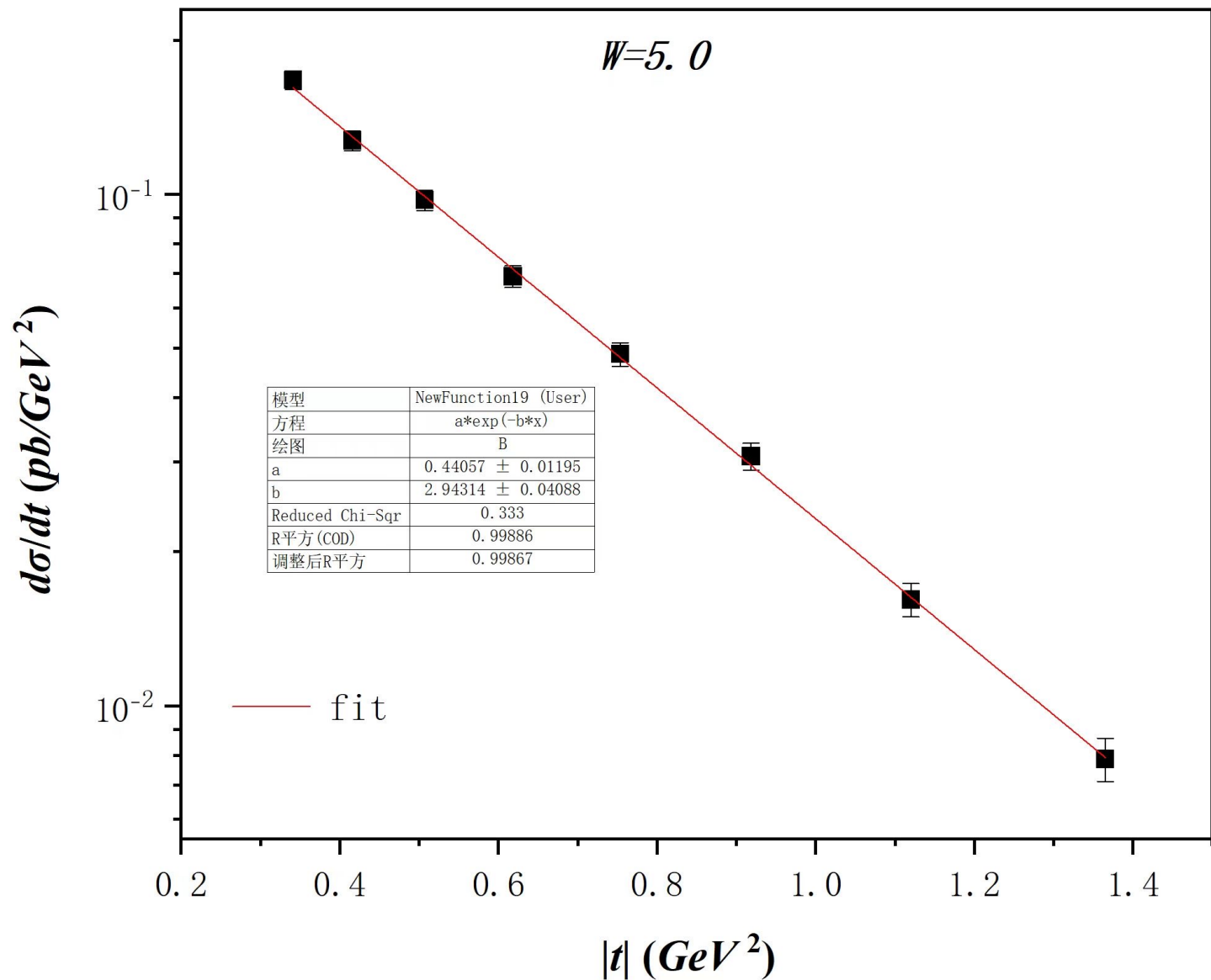


10.82 GeV. 4.602669044

$$W(b) = 2.39159 + 4 * 0.136198 * \ln(W/4) + 4 * 0.115 * \ln(W/90)$$

Reduced Chi-Square=1.58





$d\sigma/dt$ t_bin

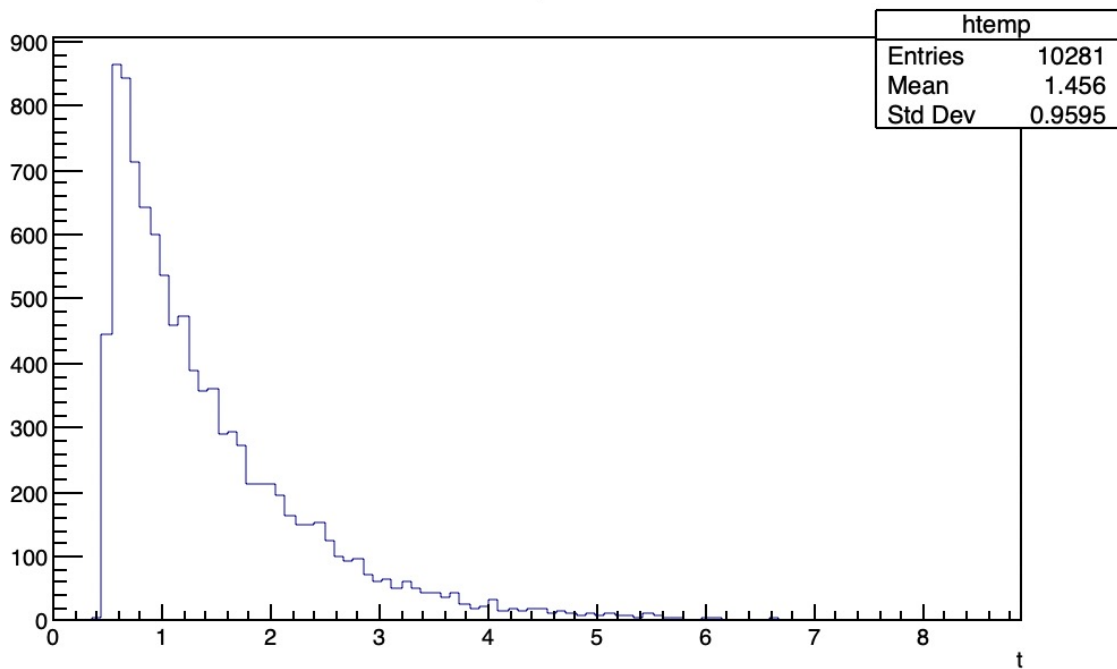
t(0.421889,4)

理论b=1.079114986

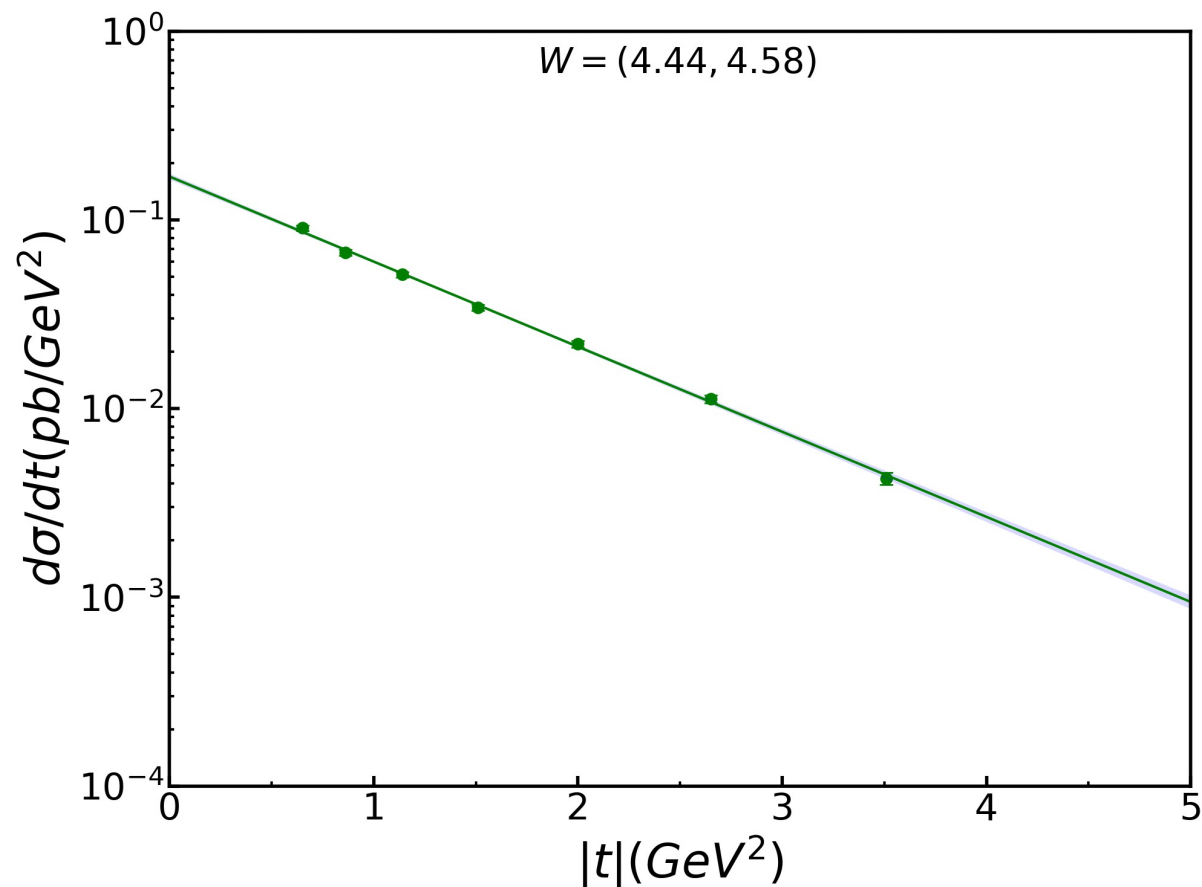
Events:4822

W_4.51_7bin

t



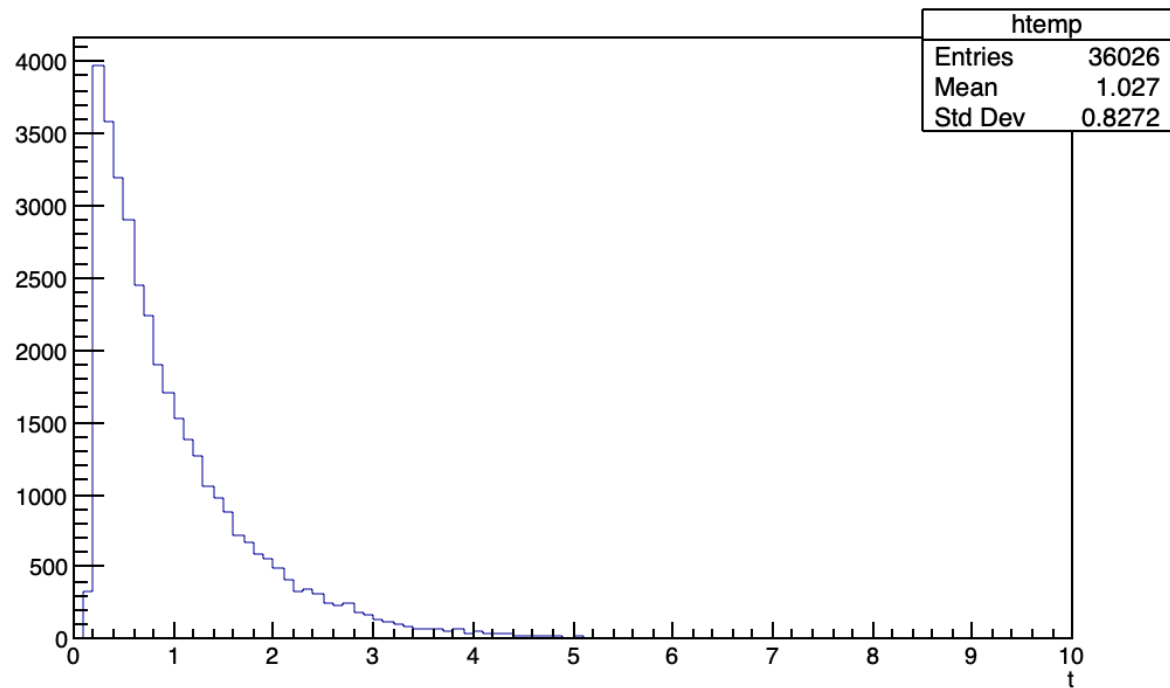
	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	0.169646	0.00550404	30.8221	6.74691*10 ⁻⁷	1.01852810924
b	1.03813	0.0201174	51.6037	5.16599*10 ⁻⁸	22438



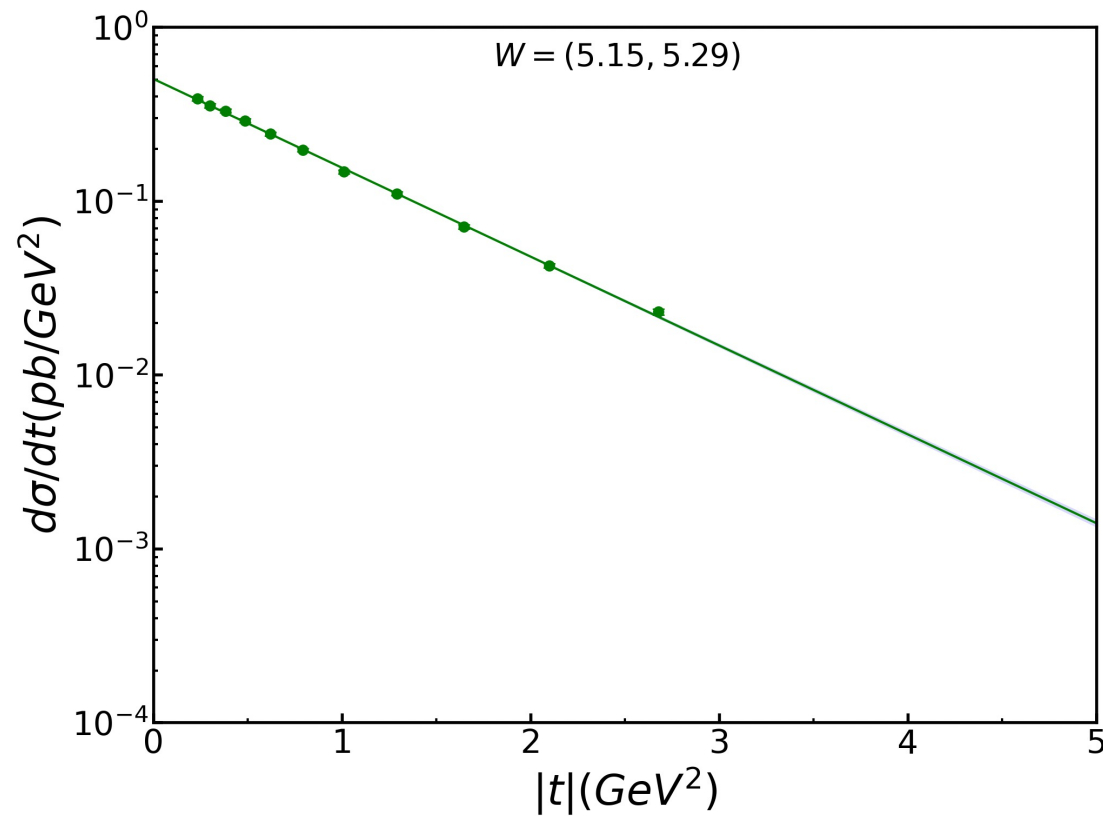
Events:16897

W_5.22_11bin

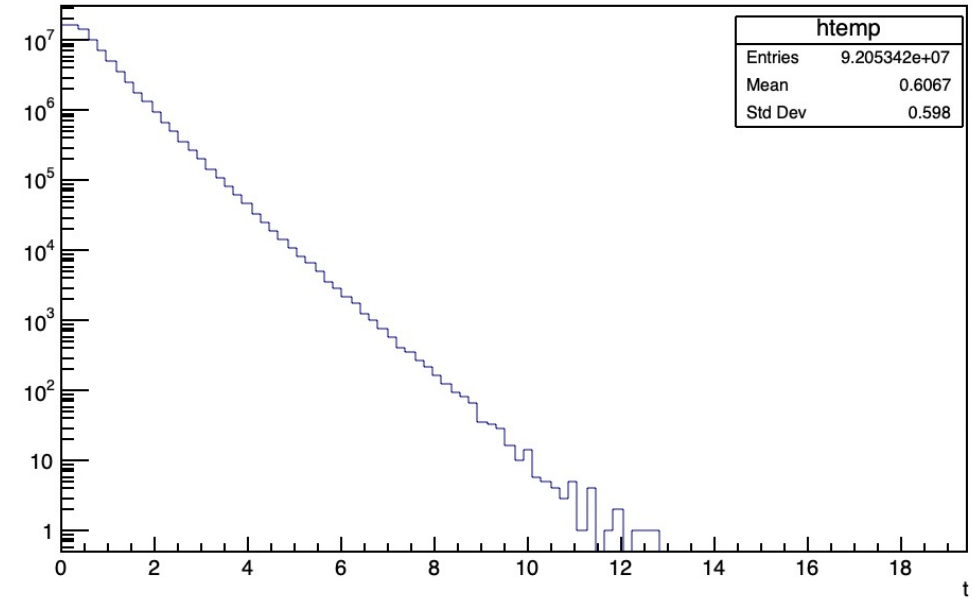
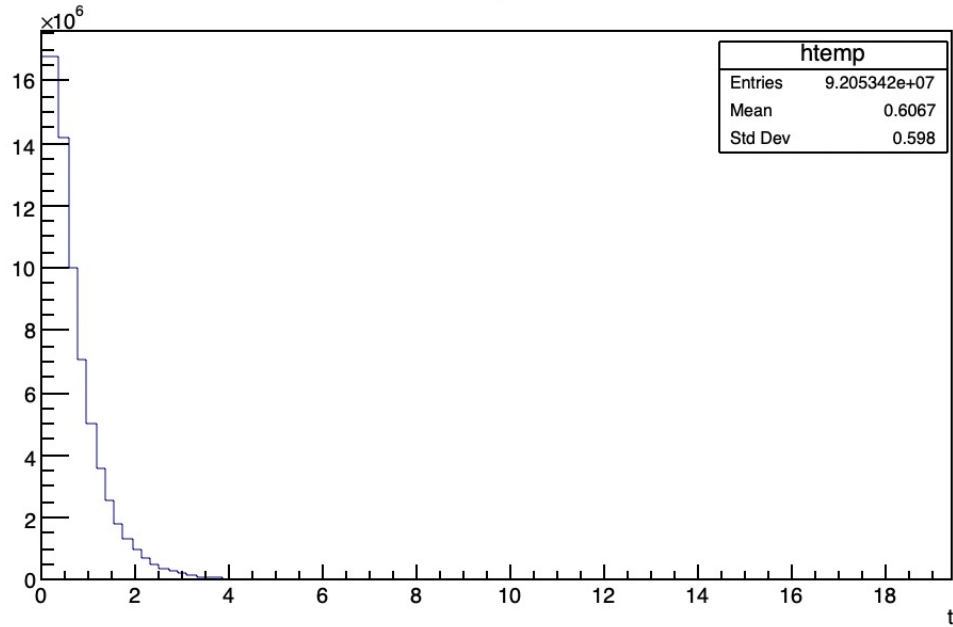
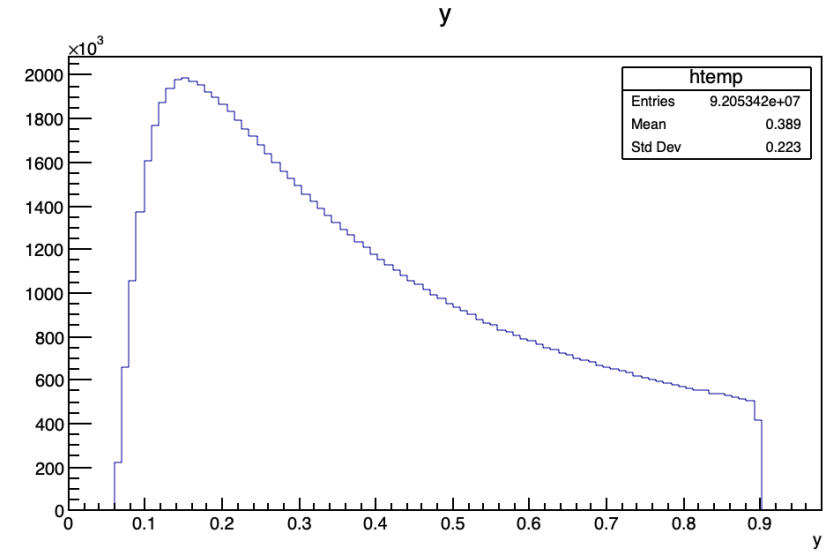
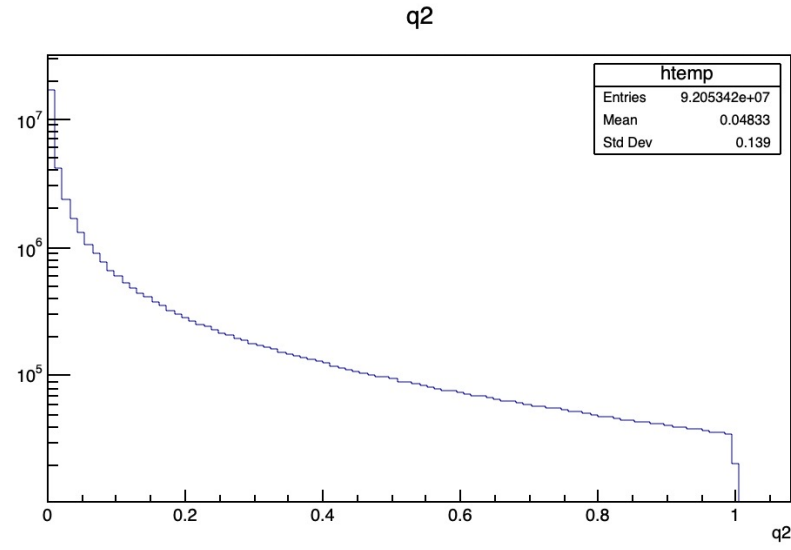
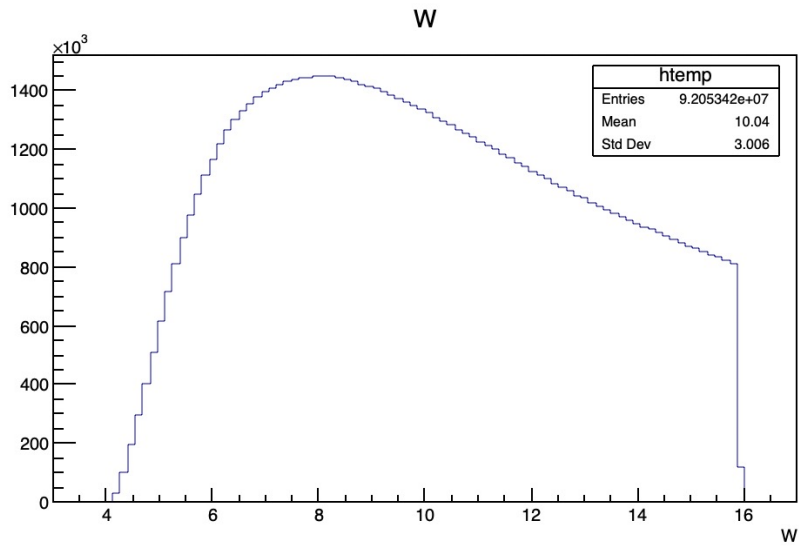
t



	Estimate	Standard Error	t-Statistic	P-Value	Chi-Sqr
a	0.505709	0.00711513	71.0752	1.09206×10^{-13}	0.990118919669
b	1.17721	0.012289	95.7939	7.46598×10^{-15}	0894

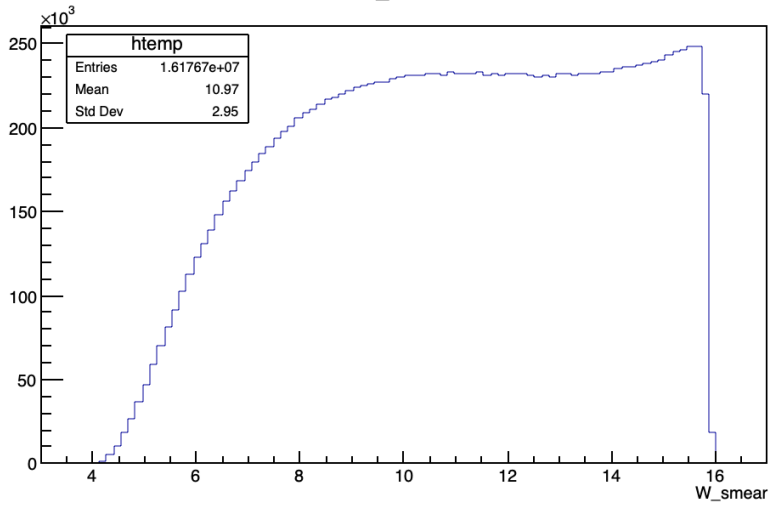


1亿smear前

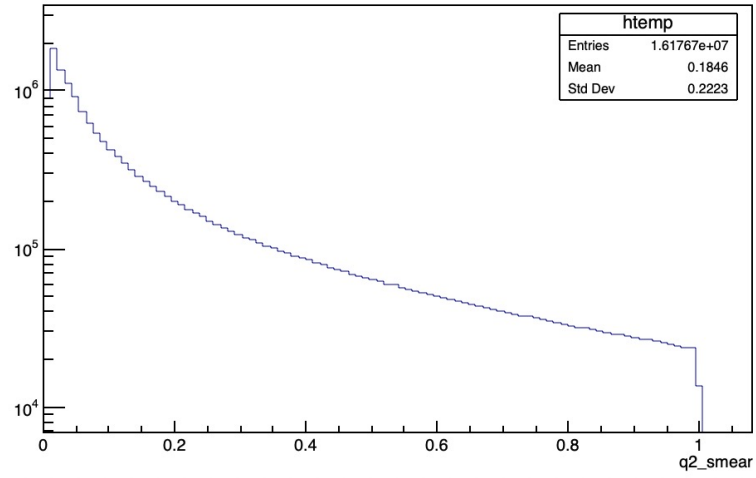


1亿smear后

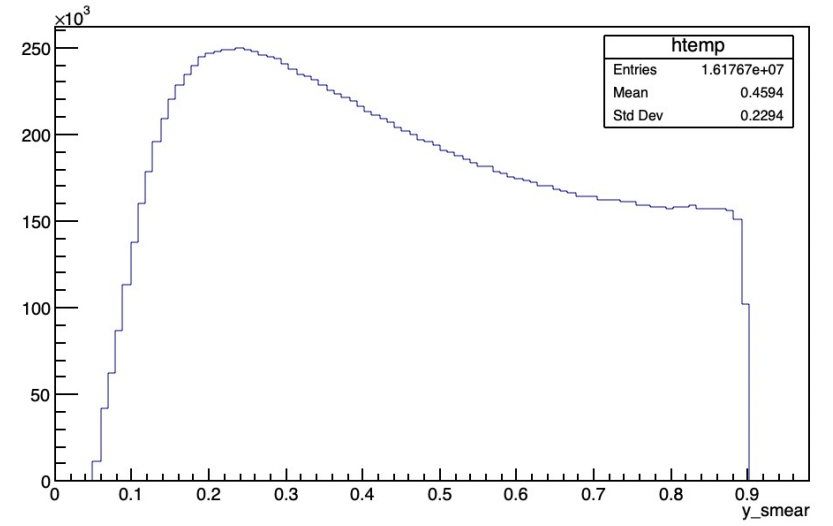
W_smear



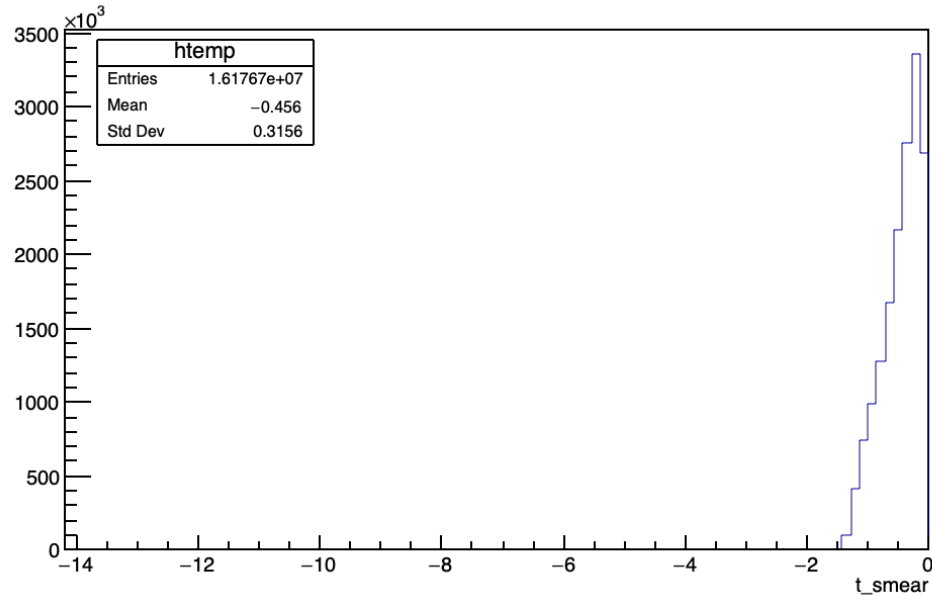
q2_smear



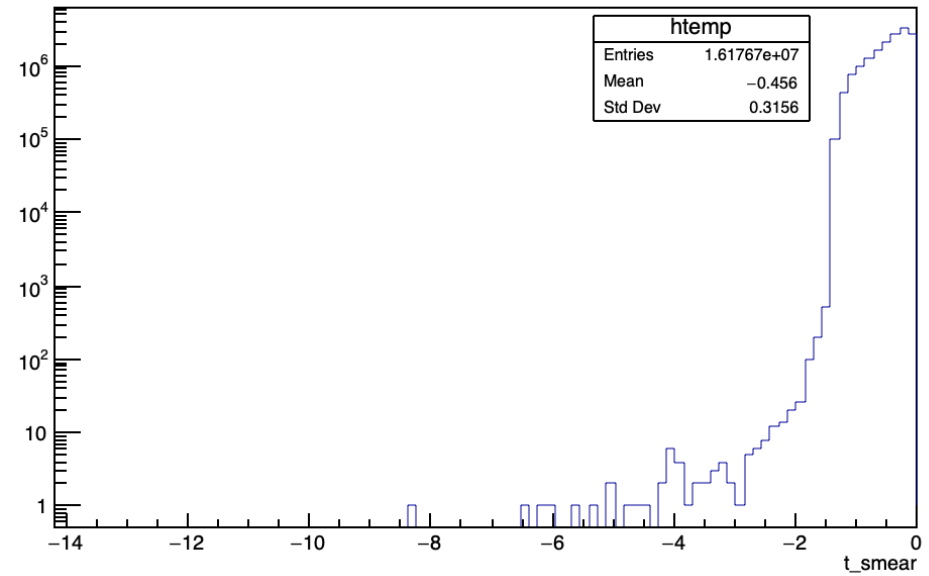
y_smear



t_smear



t_smear



总1亿：smear后 1808 3747

	MC (Q2<1)	smear	det_eff
500万	4601249	810130	0.18
1亿	9.205342*1E+07	1.61767 *1E+07	

用得到的探测效率重新进行分bin

Thanks