

关于作业2

2024年3月21日

作业完成率

- 选课人数 70，按时上传作业 67人，
- 邮件补交作业：2人
- 未交提交作业：1人

作业题目

Produce histogram with error bars by choosing one of the shape from Gaussian or Landau function.

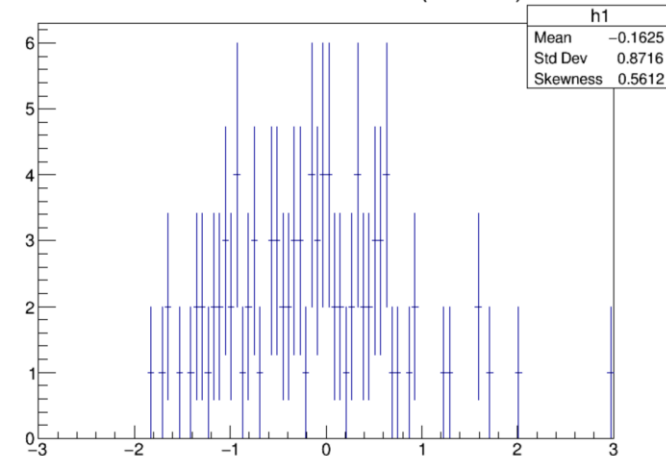
1. Plot three histograms with statistics of 100, 1000, and 10000, where each histogram is divided into 100 bins.
 - (1) display the mean, RMS and skewness of each histogram on the plot
 - (2) print them out in the terminal
2. Vary bin from 100 to 50, redraw three histograms, and display the mean, RMS and skewness of each histogram on the plot .
3. Draw the comparison plot between two different bins with same statistics and observe differences (three comparison plots; better to use different colors).

主要问题

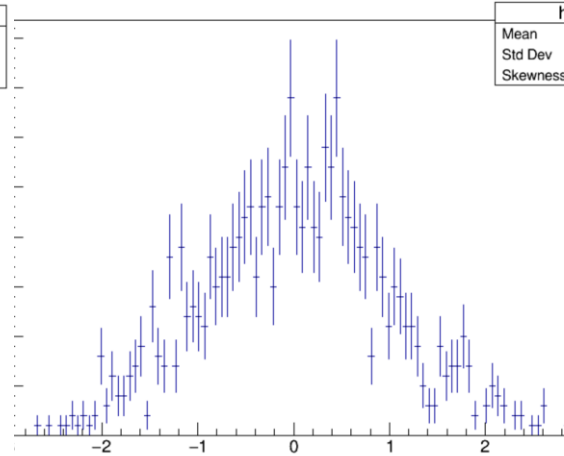
- 作业不完整，只完成 1/3
- 直方图没画误差棒
- 终端上没有打印参数： mean, RMS and skewness 的信息

参考图

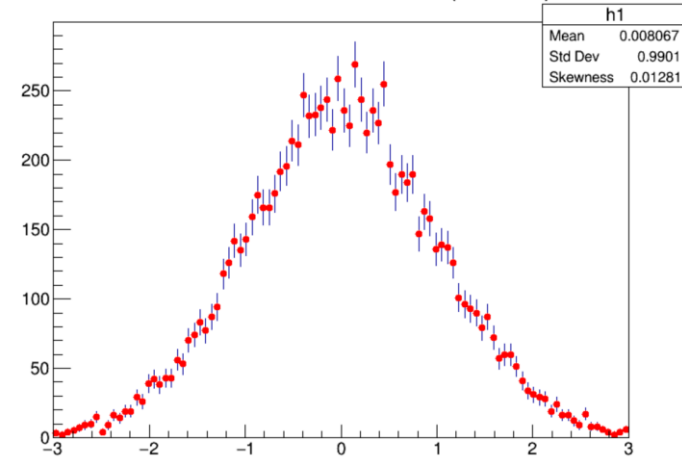
Gaussian with 100 entries (100bins)



Gaussian with 1000 entries (100bins)



Gaussian with 10000 entries (100bins)



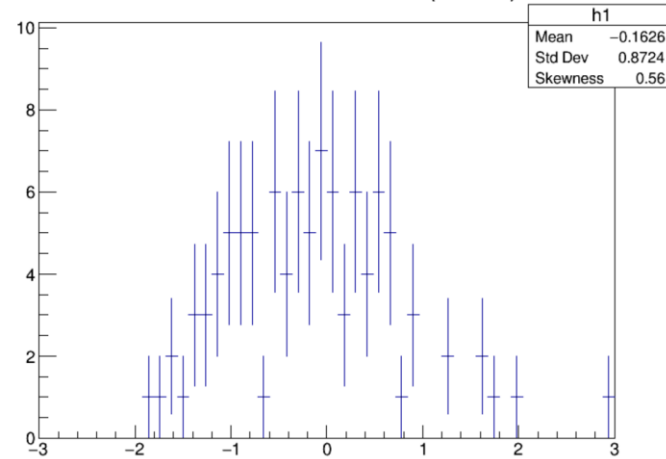
```
root [0]
Processing hw2_1_100e.C
mean=-0.162462
RMS=0.871587
Skewness=0.561187
root [1] █
```

```
root [0]
Processing hw2_1_1000e.C.
mean=0.00920449
RMS=0.986067
Skewness=0.0692745
root [1] █
```

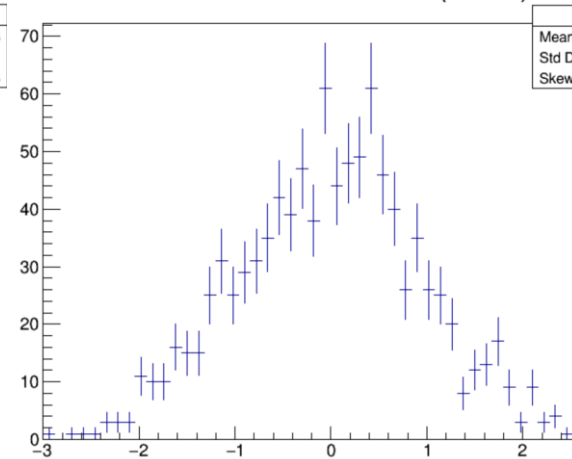
```
root [0]
Processing hw2_1_10000e.C.
mean=0.00806682
RMS=0.990074
Skewness=0.0128058
root [1] █
```

参考图

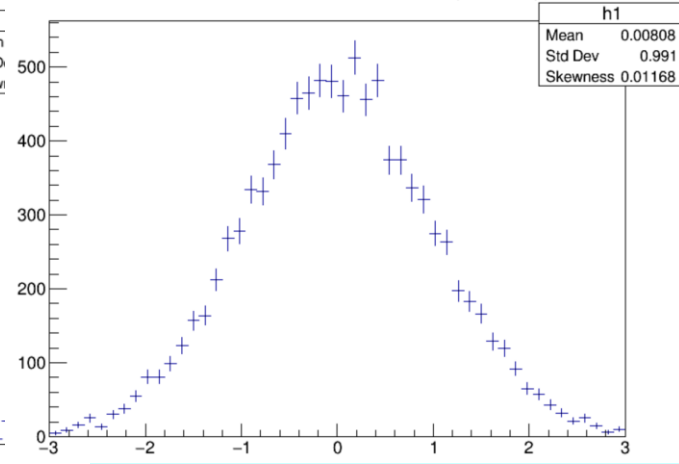
Gaussian with 100 entries (50bins)



Gaussian with 1000 entries (50bins)



Gaussian with 10000 entries (50bins)



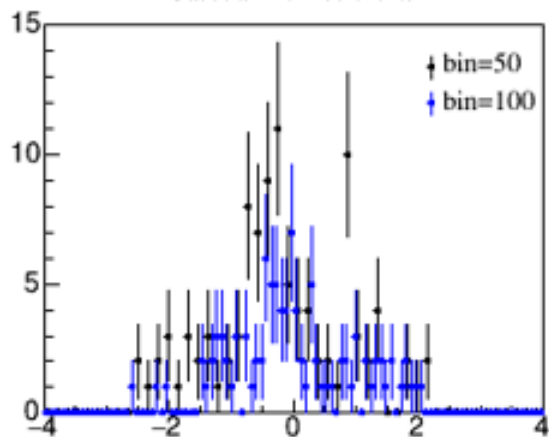
```
root [0]
Processing hw2_2_100e.C
mean=-0.162609
RMS=0.872421
Skewness=0.560008
root [1] █
```

```
root [0]
Processing hw2_2_1000e.C
mean=0.00922705
RMS=0.986987
Skewness=0.0641142
root [1] █
```

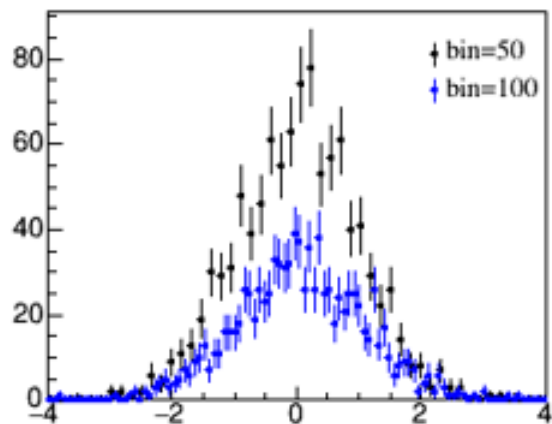
```
root [0]
Processing hw2_2_10000e.C
mean=0.00807976
RMS=0.990959
Skewness=0.0116822
root [1] █
```

参考图

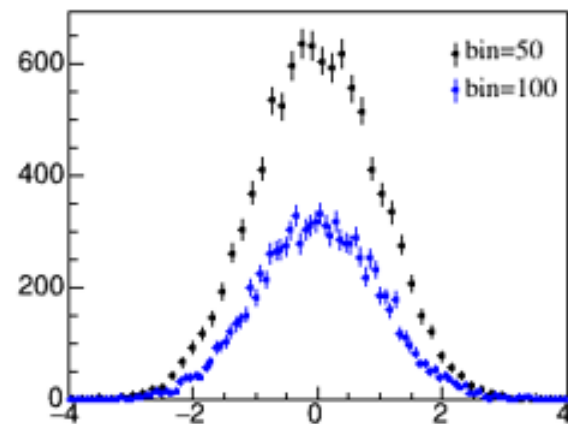
Gaussian with 100 events



Gaussian with 1000 events



Gaussian with 10000 events



无误差棒图

