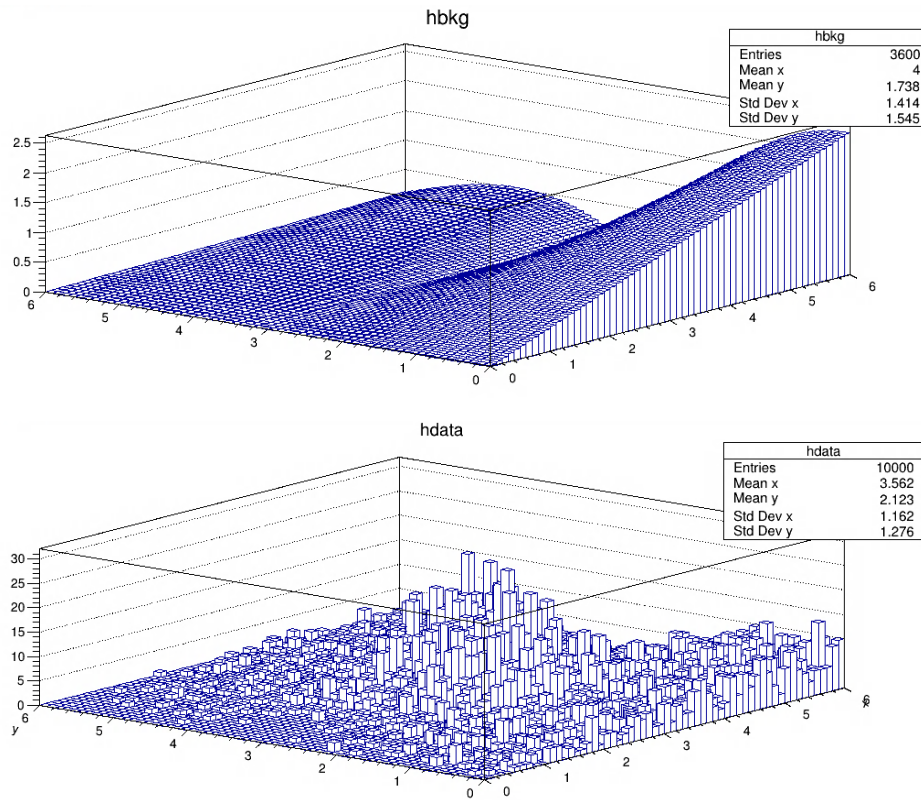


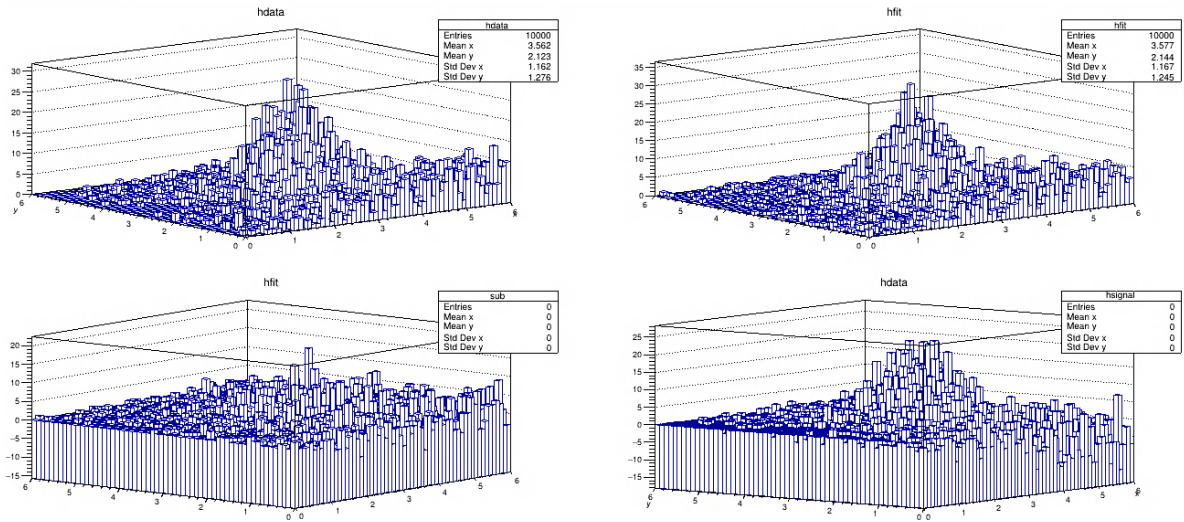
2DFit: Sorawich Maichum – sm9cq



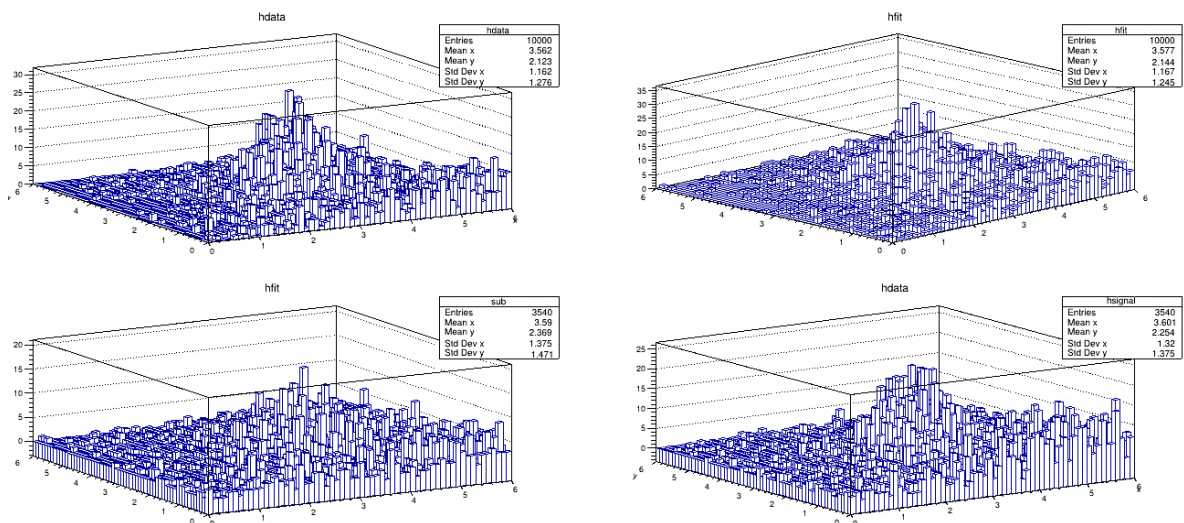
These are data which I get from the Fitinput.root. And I guess with the sum of 2 Gaussians in 2 dimensions.

$$F(x) = A e^{\frac{(x-a)^2}{2b^2}} e^{\frac{(y-c)^2}{2d^2}} + B e^{\frac{(x-f)^2}{2g^2}} e^{\frac{(y-h)^2}{2i^2}}$$

One is signal and another is a background.

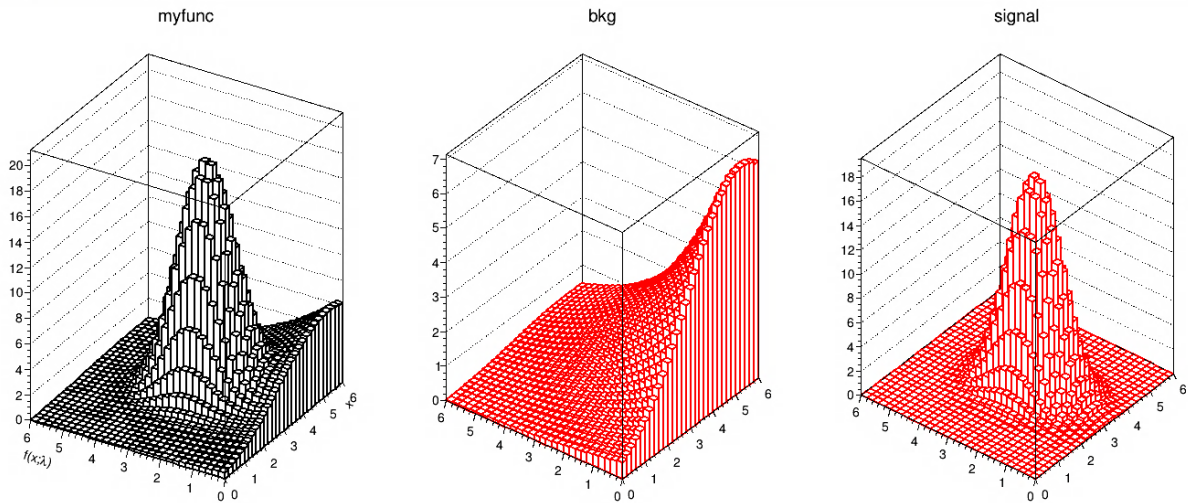


These are what I got at first. Some of them have negative values. So I do absolute them to get the plots below.



Where, 4 plots are

- the data histogram (lego plot)
- the fitted result stored in a 2D histogram (lego plot)
- residuals: data - fit
- data after subtracting the best fit background



These are our fitting functions from data.

EXT	PARAMETER		PARABOLIC	MINOS	ERRORS
NO.	NAME	VALUE	ERROR	NEGATIVE	POSITIVE
1	Normalization	5.26259e+02	2.47674e+01		
2	Mean x	5.34770e+00	1.55741e-01		
3	SD x	2.28544e+00	8.69822e-02		
4	Mean y	-2.25738e+01	5.89851e-01		
5	SD y	7.66213e+00	1.82772e-01		
6	Bkg	1.78011e+01	3.68787e-01		
7	BkgMean x	3.08045e+00	9.99186e-03		
8	BkgSD x	5.28493e-01	8.17605e-03		
9	BkgMean y	2.44823e+00	1.58394e-02		
10	BkgSD y	1.09787e+00	1.61583e-02		

The reported parameters for sum of 2 2-D Gaussians.

```
Total number=8938
Error=94.541
```

The total number of events is $8,938 \pm 94$ events.

I did with integrate the 4th plot to be our number of events and the sqrt of it is the error for this report.