1-1

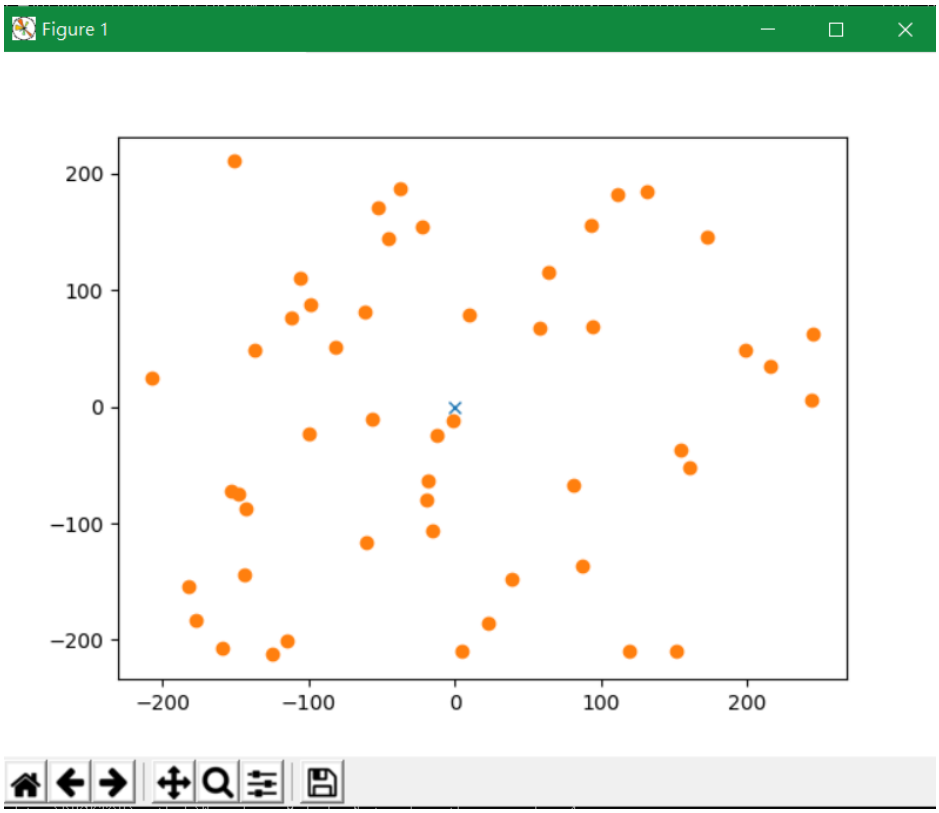


Figure 1
200
100
0
−100
−200
−200
−100
0
100
200

1-2

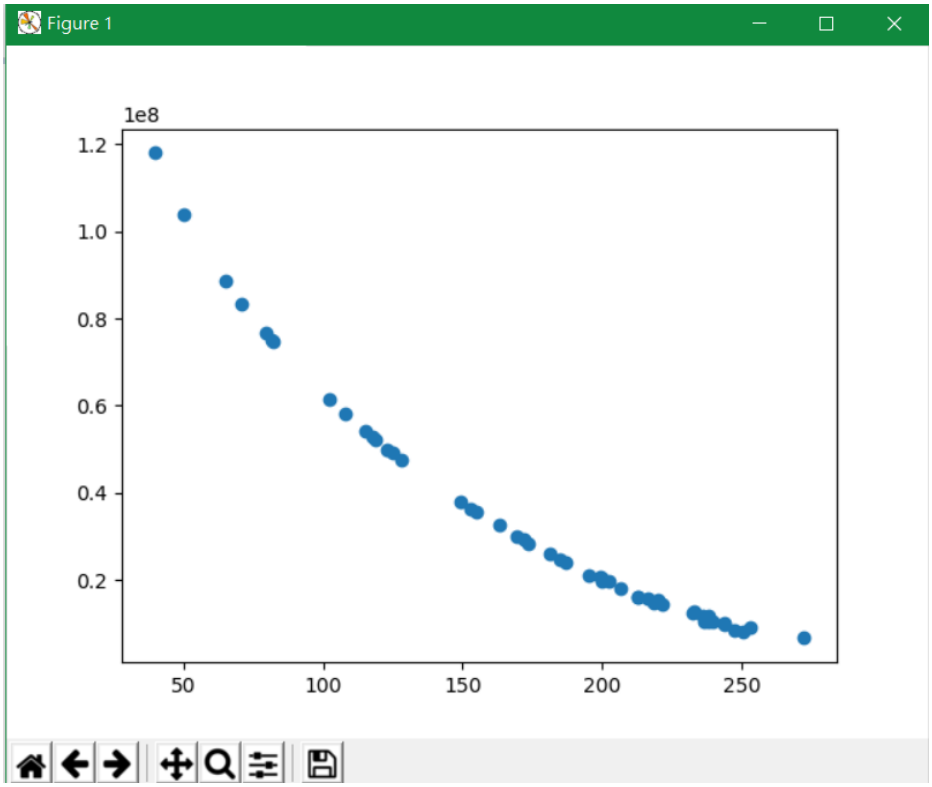
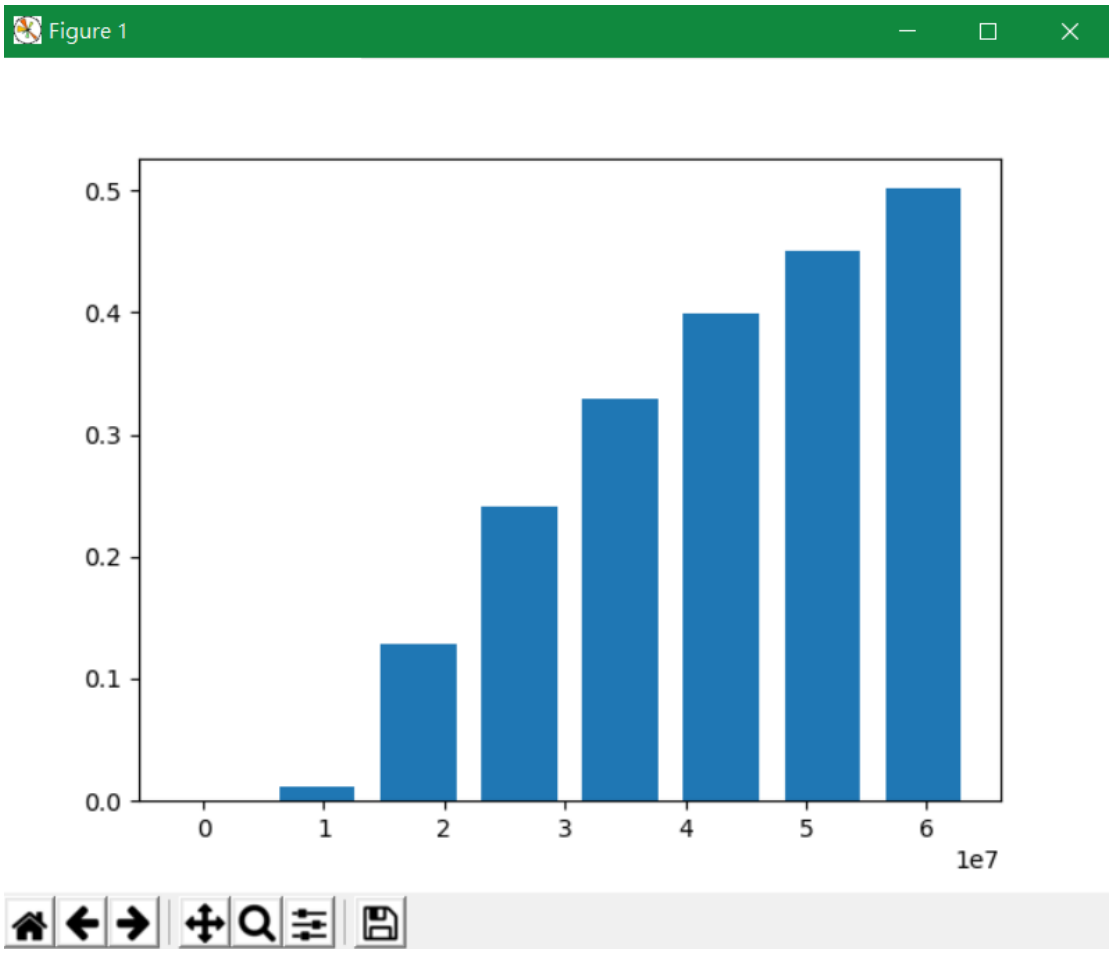


Figure 1
1e8
1.2
1.0
0.8
0.6
0.4
0.2
50
100
150
200
250

Calculate: C=B*log2(1+SINR), where B=10*7Hz. For a UE, SINR=P/pi+N. P is power receive from central BS, pi is sum of power from other BS and N is thermal noise

1-3



Buffer policy design : when new bit arrive, discard the oldest bit if buffer is full
因為設計從公平性來看，沒有道理要因為某個 user 的網路狀況很差而讓 buffer 塞爆，應該以新來的服務品質為優先

I set buffer to be 6MB and CBR parameters $\{X_l, X_m, X_h\}$ to be (1.125MB/s, 3.125MB/s, 5.125MB/s) with corresponding bit loss rate about (0.012, 0.025,0.042) respectively in duration 1000s.(大約)

I calculate bits loss probability based on $\frac{\text{loss bits}}{\text{total sent bits}}$

(to be more completely in showing the curve, I plot 7 unit in x axis)

It can be seen that the curve is like (1-e^{-x}), which would saturate in 1 when x is high

數字每次跑出來我設的最終項大約在 0.48~0.53 之間

B-1

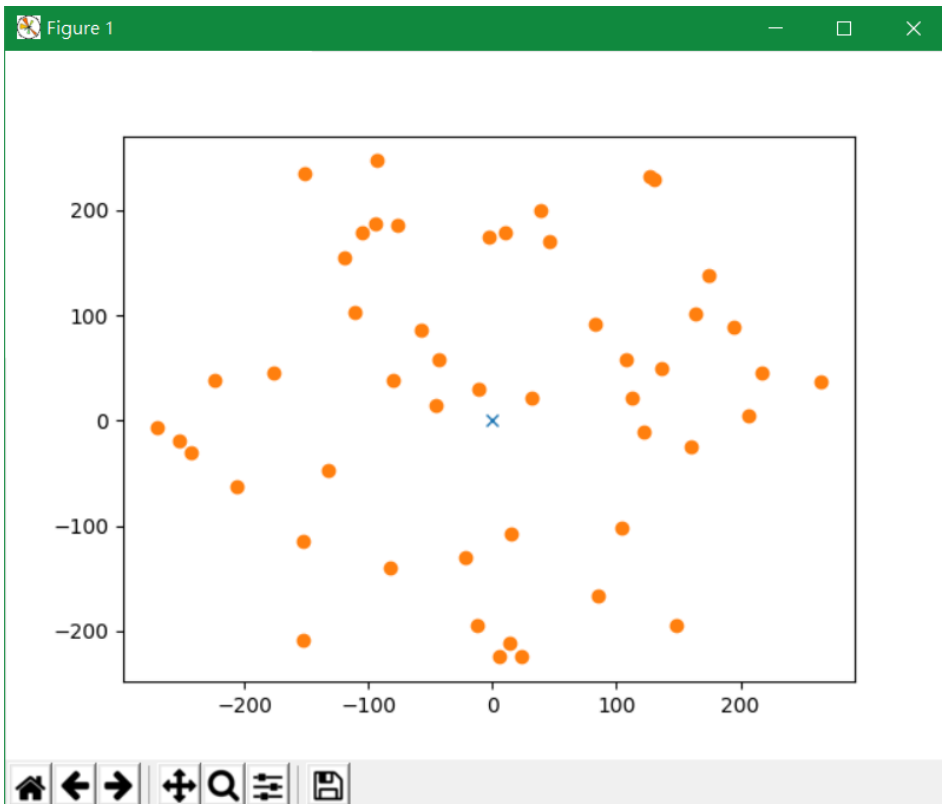


Figure 1
200
100
0
−100
−200
−200
−100
0
100
200

B-2

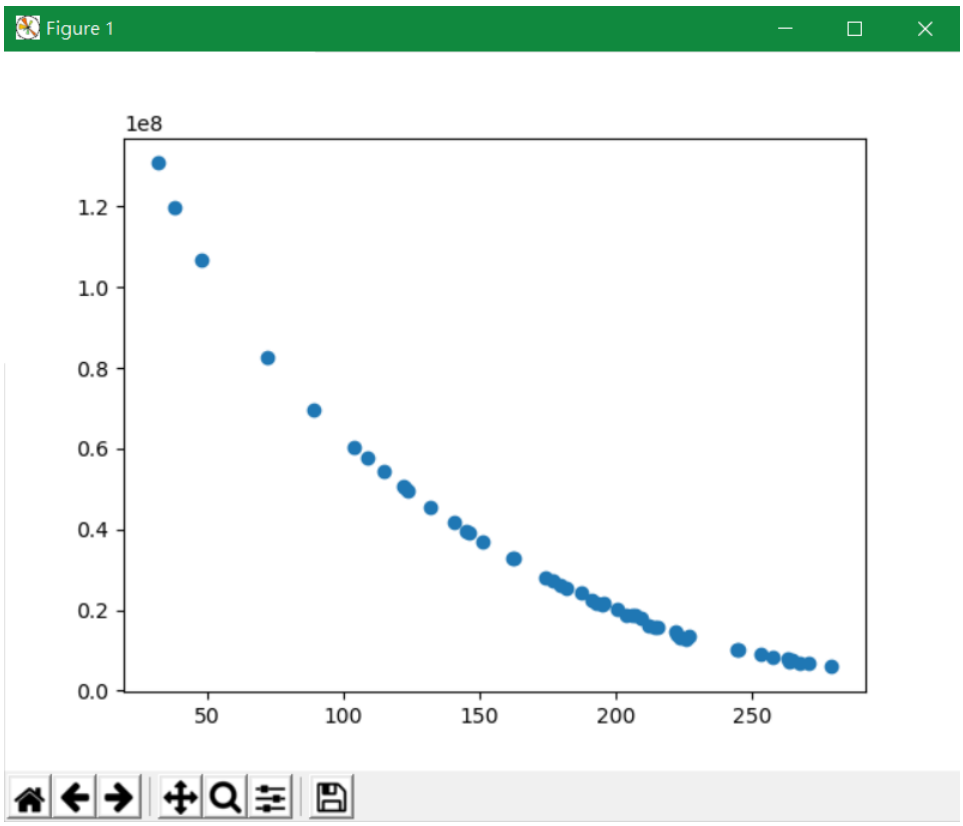
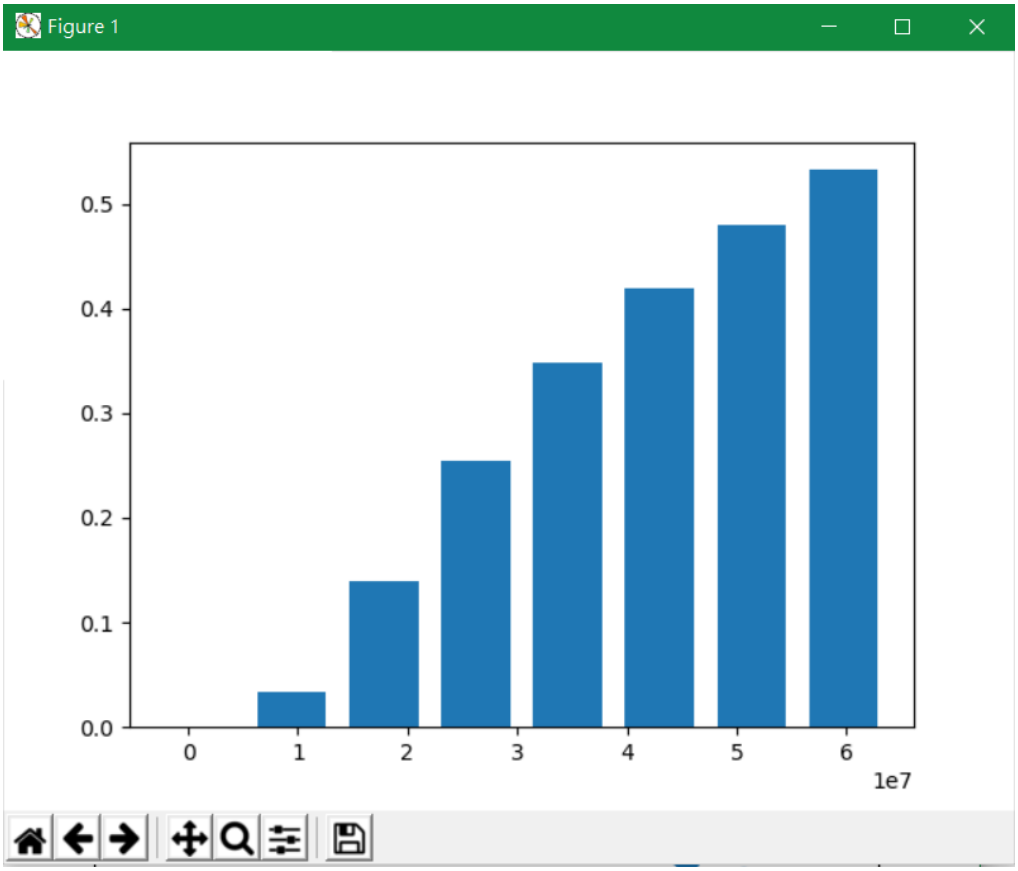


Figure 1
1e8
1.2
1.0
0.8
0.6
0.4
0.2
0.0
50
100
150
200
250

Calculate: C=B*log2(1+SINR), where B=10*7Hz. For a UE, SINR=P/pi+N. P is power receive from central BS, pi is sum of power from other BS and N is thermal noise

B-3



Buffer policy : same as 1-3

I set buffer to be 6MB and parameters $\{\lambda_l, \lambda_m, \lambda_h\}$ to be (1.125MB/s, 3.125MB/s, 5.125MB/s) with corresponding bit loss rate about (0.012, 0.025,0.042) respectively in duration 1000s.(大約)

I calculate bits loss probability based on $\frac{\text{loss bits}}{\text{total sent bits}}$

(to be more completely in showing the curve, I plot 7 unit in x axis)

It can be seen that though the BR is set as poisson distribution, the overall bit loss probability isn't change dramatically, which may result from the cancelation natural of random variable.(雖然是隨機，但跑的時間夠久的話>λ_l的項與<λ_l的項會抵消因此整體看來一樣)