

Scripts :

Fourier_Hadamard.m:

畫出 Fourier matrix 及 Hadamard matrix 的 Beam pattern

Configuration:

N: antenna 的數量

Mode: 直角坐標或極坐標

```
N = 64;
```

```
mode = 1; % 1 for polar coordinate; 0 for cartesian coordinate
```

Plot_Hier_codebook.m:

畫出特定 layer 所有 codeword 的 Beam pattern

Configuration:

N: antenna 的數量

```
N = 256;
```

```
layer = 0;
```

Rotation_demo.m:

將 UE 繞著 gNB 轉的過程中所選擇的 codeword 的 Beam pattern 錄製成影片

Configuration:

N_gnb: gNB 的 antenna 數量

N_ue: UE 的 antenna 數量

channel: channel model, 內建 A~E

speed: UE 轉動的速度

rlim: 極坐標軸中 R 軸的最大值

```
N_gnb = 128;
```

```
N_ue = 128;
```

```
channel = 'A';
```

```
speed = 1;
```

```
rlim = 10;
```

```
videoname = "demo.avi";
```