Let's load the data for BS 1.

```
load('mydatatr2BS1.mat')
```

All the important information is stored in a cell named "*pathcell*".

```
length(pathcell)
```

```
ans = 238560
```

The cell has 238560 points. Each pont corresponds to a 1x1 m^2 square. Let's print an element of the cell.

```
extracted_cell_element = pathcell{100}
```

```
extracted_cell_element = 7×9
    1.0000    4.0000 -139.1900 -106.8560    0.0000   90.5576   22.8953   89.4424 ...
    2.0000    1.0000 -144.0220   57.1486    0.0000   90.5760   18.0714   89.4240
    3.0000    2.0000 -145.5200  131.6390    0.0000   90.5672   22.8953   89.4328
    4.0000    3.0000 -152.9590   72.7856    0.0000   90.6069   23.3894   89.3931
    5.0000    2.0000 -153.2230   59.4913    0.0000   90.5709   23.4404   89.4291
    6.0000    3.0000 -154.7270 -127.3580    0.0000   90.5394   21.2819   89.4606
    7.0000    1.0000 -158.7190 -144.7150    0.0000   90.6176   23.3894   89.3824
```

Each element of *pathcell* is a matrix of dimensions N_paths \times N_features. N_paths is the total number of paths that were measured at a point. N_features are all the important features related to the path. N_paths can vary from 0 to a maximum of 25 (0 is the case when there were no path for communication present at a particular point in the city). N_features is always 9. We will describe them below

```
N_paths = size(extracted_cell_element,1)
```

```
N_paths = 7
```

```
N_features = size(extracted_cell_element,2)
```

```
N_features = 9
```

The first column of the extracted element of the cell is just the path number. This varies from 1 to N_path

```
pathnums = extracted_cell_element(:,1)
```

```
pathnums = 7×1
     1
     2
     3
     4
     5
     6
     7
```

The second column is number of interactions with environment for each path. These interactions can be multiple reflections, diffractions and transmissions. 0 interactions means its a LOS path. NLOS path if interatctions > 0.

```
num_interactions = extracted_cell_element(:,2)
```

```
num_interactions = 7×1
     4
     1
     2
     3
     2
     3
     1
```

The third column is the received power for the paths in dBm.

```
path_rx_powers = extracted_cell_element(:,3)
```

```
path_rx_powers = 7×1
 -139.1900
 -144.0220
 -145.5200
 -152.9590
 -153.2230
 -154.7270
 -158.7190
```

The fourth column is the phase pertaining to each path in degrees. It can vary from -180 to 180.

```
path_phase = extracted_cell_element(:,4)
```

```
path_phase = 7×1
 -106.8560
   57.1486
  131.6390
   72.7856
   59.4913
 -127.3580
 -144.7150
```

The fifth column is the time of arrival of each path in seconds

```
path_toas = extracted_cell_element(:,5)
```

```
path_toas = 7×1
10^-5 ×
    0.1803
    0.1745
    0.1772
    0.1656
    0.1760
    0.1863
    0.1627
```

The sixth column is the elevation angle of arrival of each path in degrees

```
elevation_arrival = extracted_cell_element(:,6)
```

```
elevation_arrival = 7×1
   90.5576
   90.5760
   90.5672
   90.6069
   90.5709
   90.5394
   90.6176
```

The seventh column is the azimuth angle of arrival of each path in degrees

```
azimuth_arrival = extracted_cell_element(:,7)
```

```
azimuth_arrival = 7×1
   22.8953
   18.0714
   22.8953
   23.3894
   23.4404
   21.2819
   23.3894
```

The eighth column is the elevation angle of departure of each path in degrees

```
elevation_departure = extracted_cell_element(:,8)
```

```
elevation_departure = 7×1
   89.4424
   89.4240
   89.4328
   89.3931
   89.4291
   89.4606
   89.3824
```

The ninth column is the azimuth angle of departure of each path in degrees

```
azimuth_departure = extracted_cell_element(:,9)
```

```
azimuth_departure = 7×1
 -108.3130
  -86.1152
  -92.1080
 -107.2770
  -86.1152
  -85.0849
  -91.9986
```