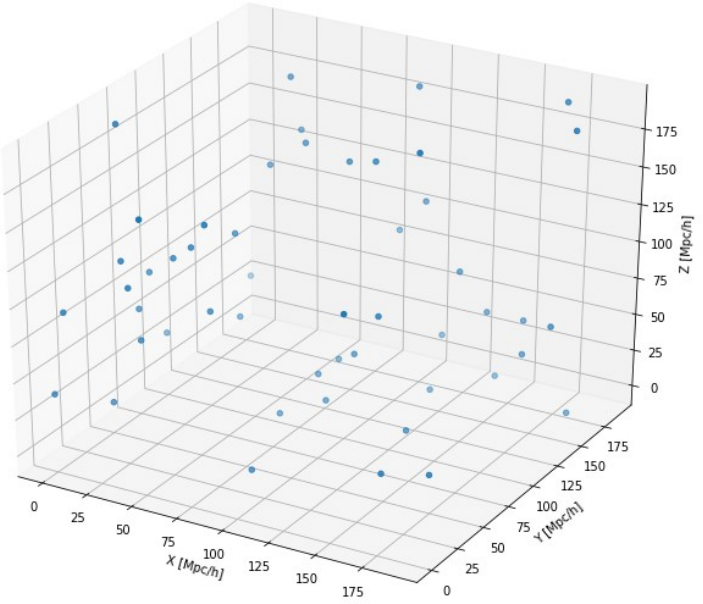
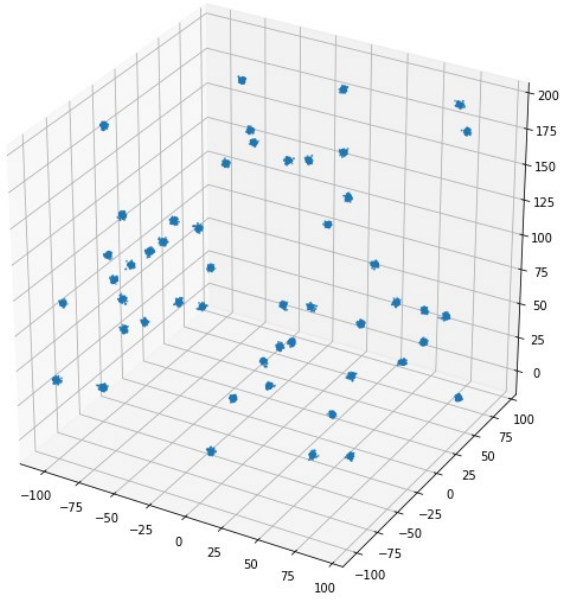
# Random data set

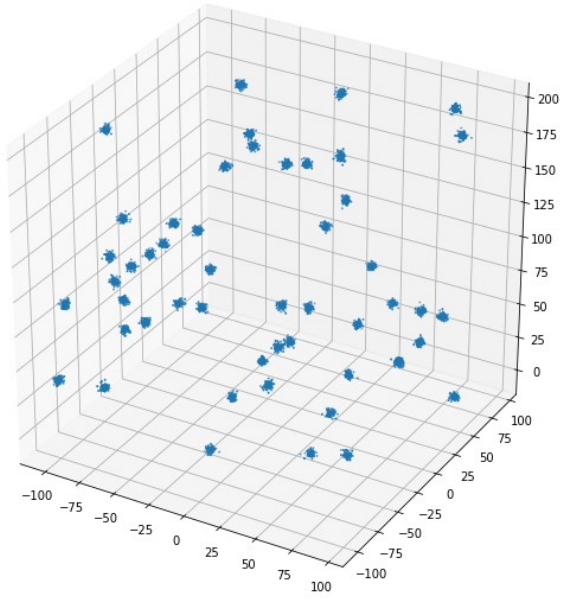
Number of cluster : 50
Number of galaxies in each clusters : 100
Change the std (1,2,4,6,8,10)



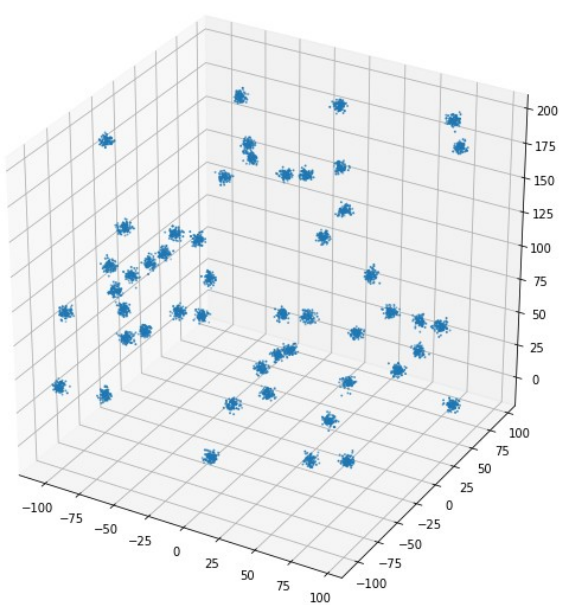
# Random data set




- Sigma = 1

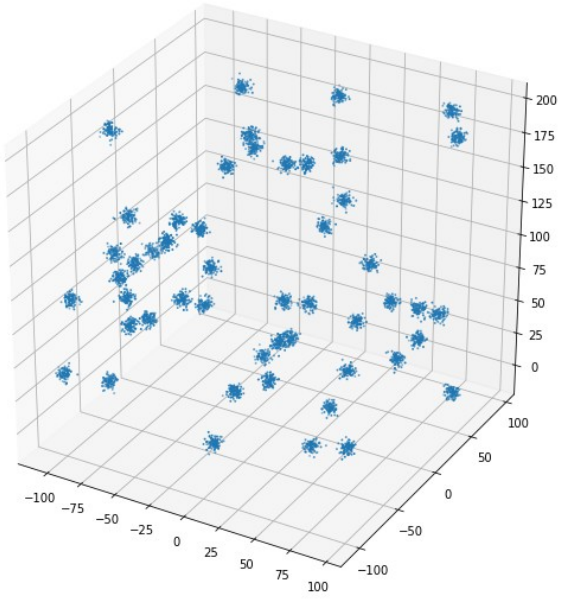



- Sigma = 2

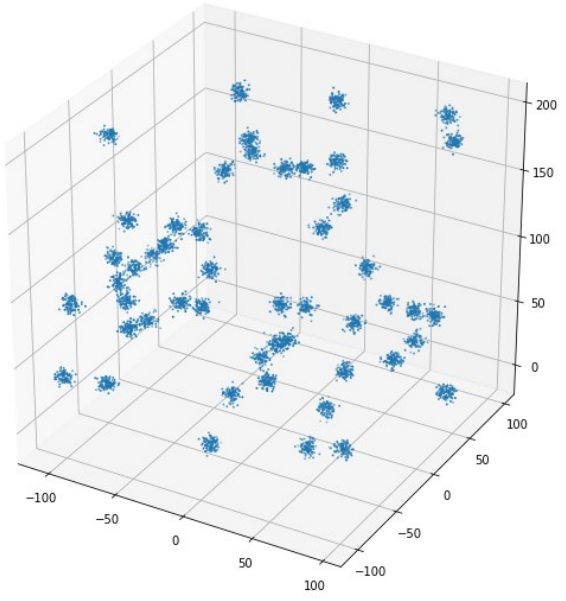



- Sigma = 4

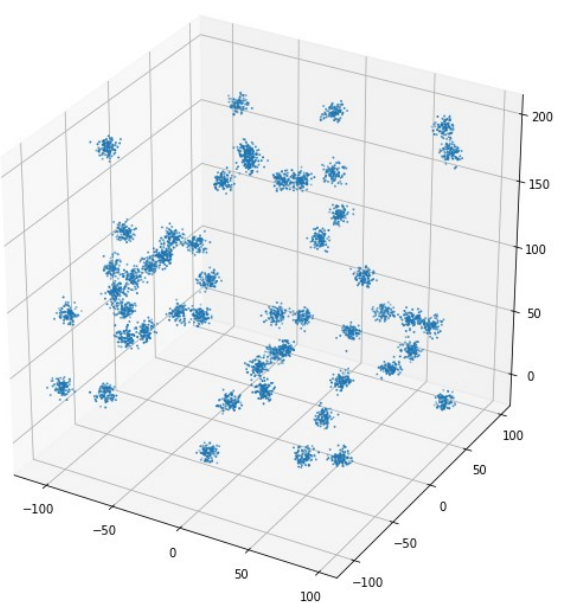
# Random data set




- Sigma = 6




- Sigma = 8




- Sigma = 10

# Results

I used 4 Algorithms;

1) MGS : fResolution = 10
2) MST :  cut-lenght = 10
3) Hierarchical Clustering : distance_threshold = 10
4) DBSCAN : eps = 10, min_samples = 3

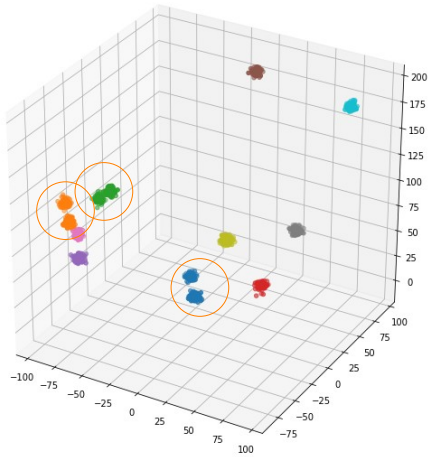
# Results

| sigma | 1 | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|---|
| MGS | 49 | 49 | 47 | 47 | 48 | 47 |
| MST | 50 | 50 | 50 | 48 | 48 | 44 |
| Hierarchical | 49 | 49 | 46 | 43 | 42 | 40 |
| DBSCAN | 49 | 49 | 46 | 43 | 42 | 40 |

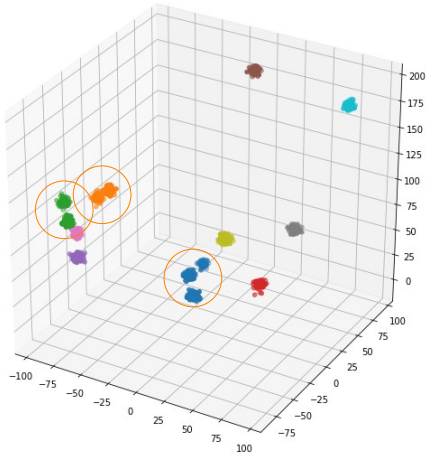
Given 50 initial clusters, each algorithm recovers different number of clusters

# Results

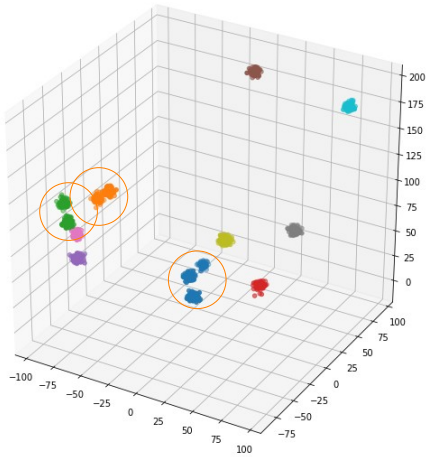
- 10 largest clusters; sigma = 4



MGS(47)



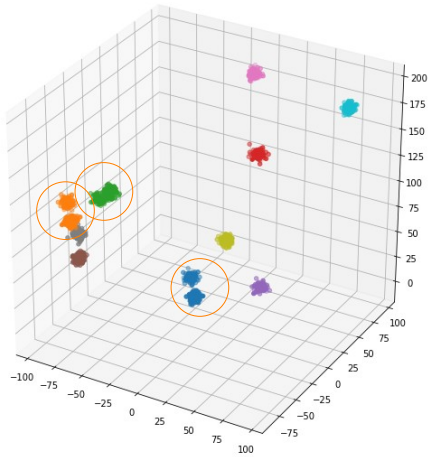
DBSCAN(46)



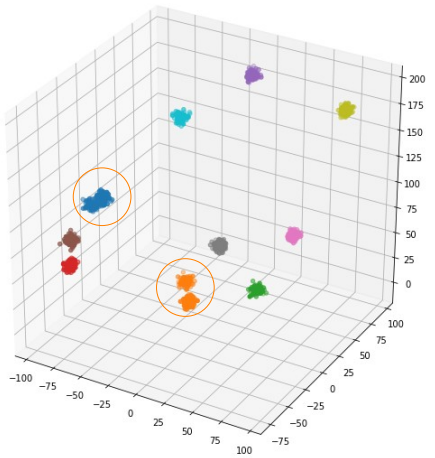
Hierarchical(46)

# Results

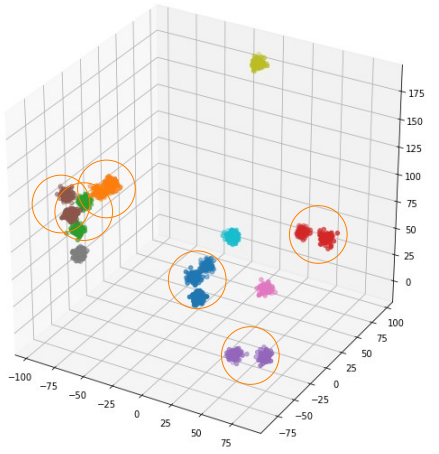
- 10 largest clusters; sigma = 6



MGS (47)



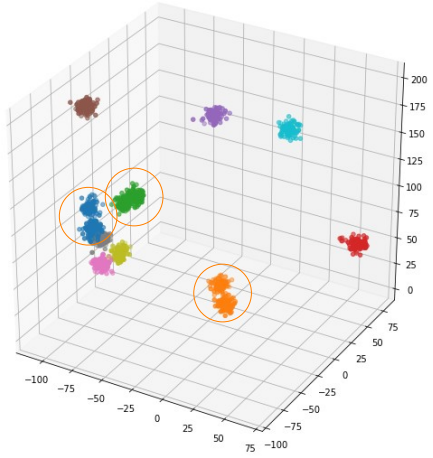
MST (48)



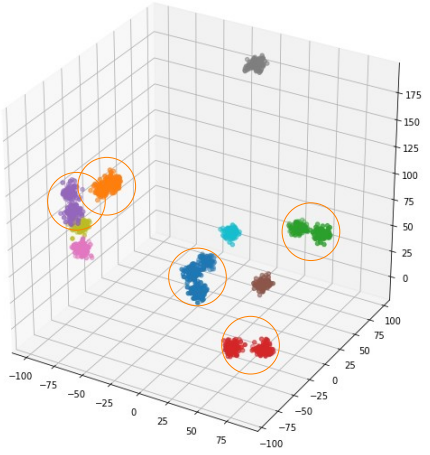
DBSCAN & Hierarchical (43)

# Results

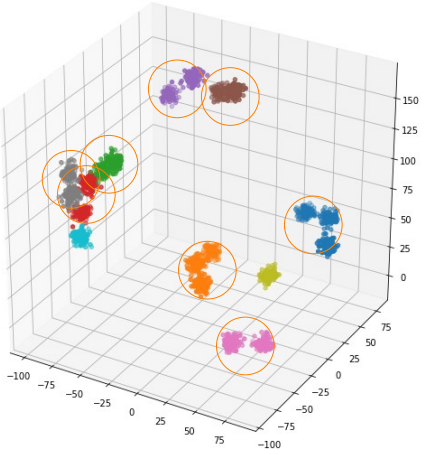
- 10 largest clusters; sigma = 10



MGS (47)



MST (44)



DBSCAN & Hierarchical (40)