Is the DBSCAN same as Hierarchical clustering when min_sample is small ?
-> Yes

In the Wikipedia;

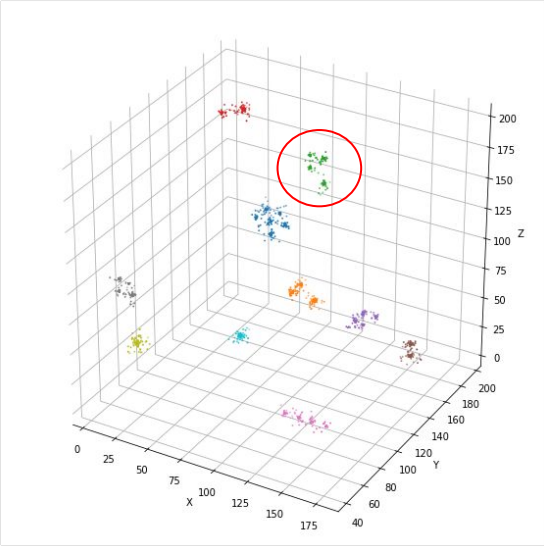
With minPts ≤ 2, the result will be the same as of hierarchical clustering with the single link metric, with the dendrogram cut at height ε.

It is make sense. When minPts is less than 2, the points are merged with nearest one neighbour. This is the same idea of Hierarchical algorithms

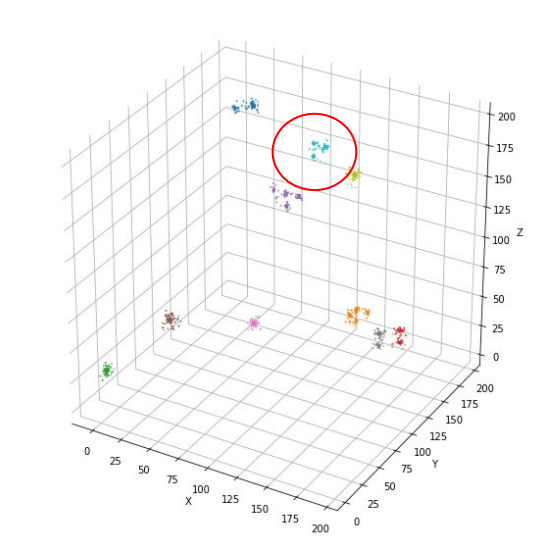
In the *Reference :* *Braune C., Besecke S., Kruse R., Density based clustering: Alternatives to DBSCAN, Partitional Clustering Algorithms, Springer (2015), pp. 193-213*

They said, “A value too low will turn the result close to what could have been achieved by hierarchical clustering.”

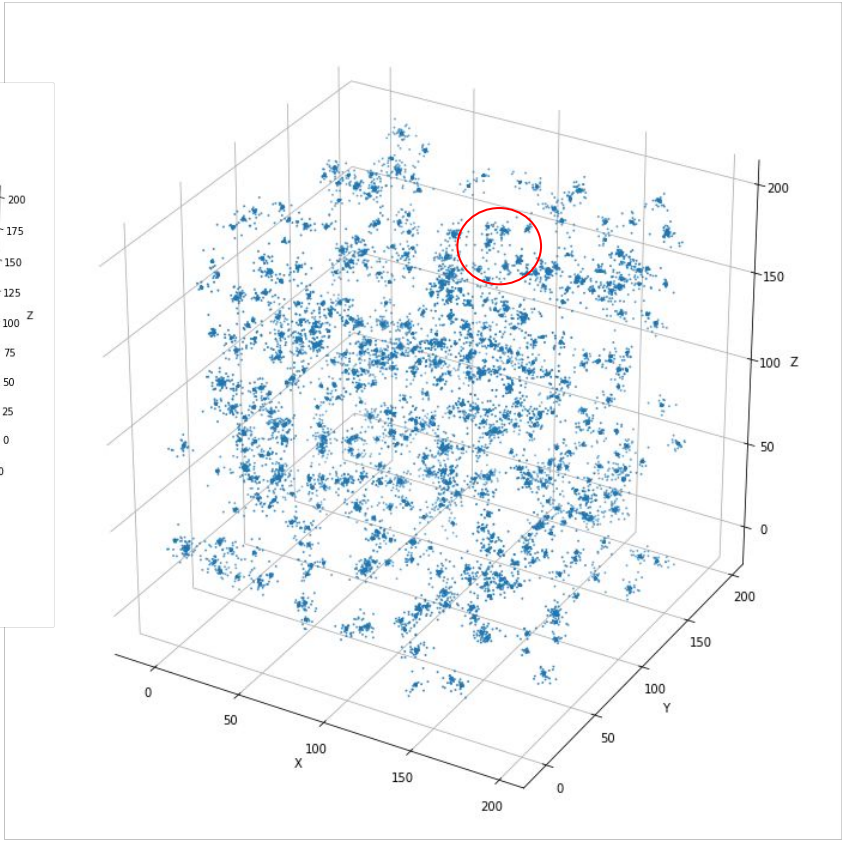
Is DBSCAN same as FoF when min_sample=0 ?
-> No…



FoF results :
linking-length = 4.0

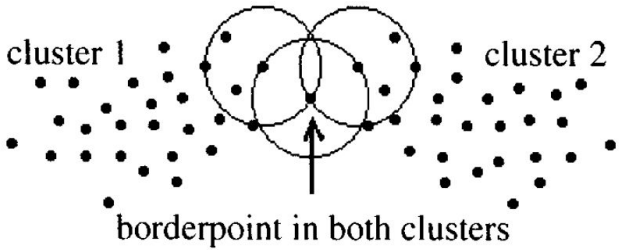


DBSCAN results :
eps = 4.0
min_sample=0



Is DBSCAN same as FoF when min_sample=0 ?
-> No…

In the original paper, “Ester et al. 1996”



Case : two clusters C1,C2 are very close and the point p belongs to both, C1 and C2.

The FoF links two cluster because of the point p

The DBSCAN is not the same :
point p will be assigned to the cluster discovered first