

03 - Co-ordinates Movie

September 11, 2022

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[9]: import h5py
import matplotlib.pyplot as plt
from os import listdir
from mpl_toolkits import mplot3d

datasets = ['organic', 'gm_late', 'gm_early']

for dataset in datasets:

    files = listdir('data/' + dataset)
    count = 0

    for file in files:

        #file = 'star_particles_015_z002p012.hdf5'
        f = h5py.File('data/' + dataset + '/' + file, 'r')

        ds_c = f['Coordinates']

        plt.figure(figsize = (14,14))

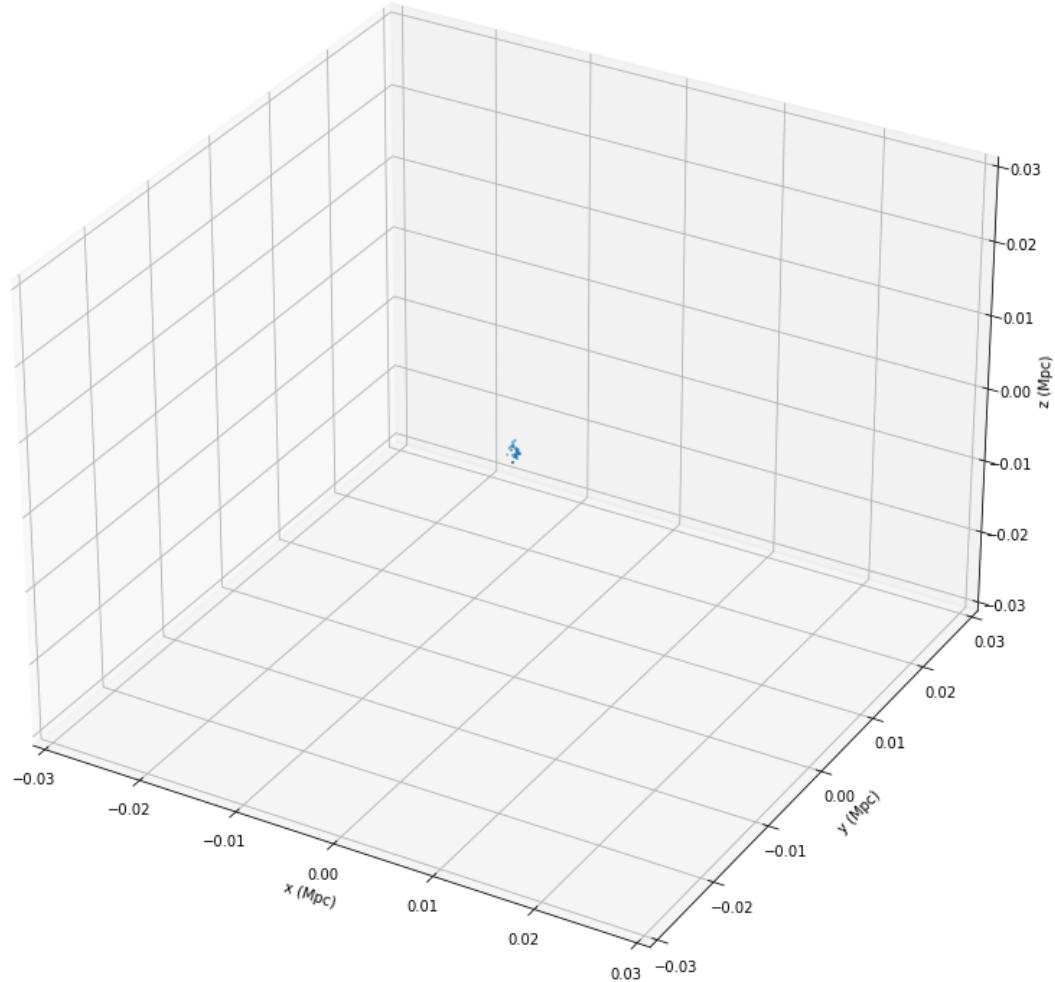
        ax=plt.axes(projection = '3d')
        ax.scatter(ds_c[:,0], ds_c[:,1], ds_c[:,2], s=1)
        ax.axes.set_xlim3d(left=-0.03, right=0.03)
        ax.axes.set_ylim3d(bottom=-0.03, top=0.03)
        ax.axes.set_zlim3d(bottom=-0.03, top=0.03)
        ax.axes.set_xlabel('x (Mpc)')
        ax.axes.set_ylabel('y (Mpc)')
        ax.axes.set_zlabel('z (Mpc)')
        ax.axes.set_title(dataset + ' ' + file)
        plt.savefig('3d-' + dataset + '\\plot' + str(count) + '.png', dpi=300)
        plt.show()

    count = count + 1

# ffmpeg -framerate 2 -i plot%d.png -vf scale=640:-1 organic.mp4
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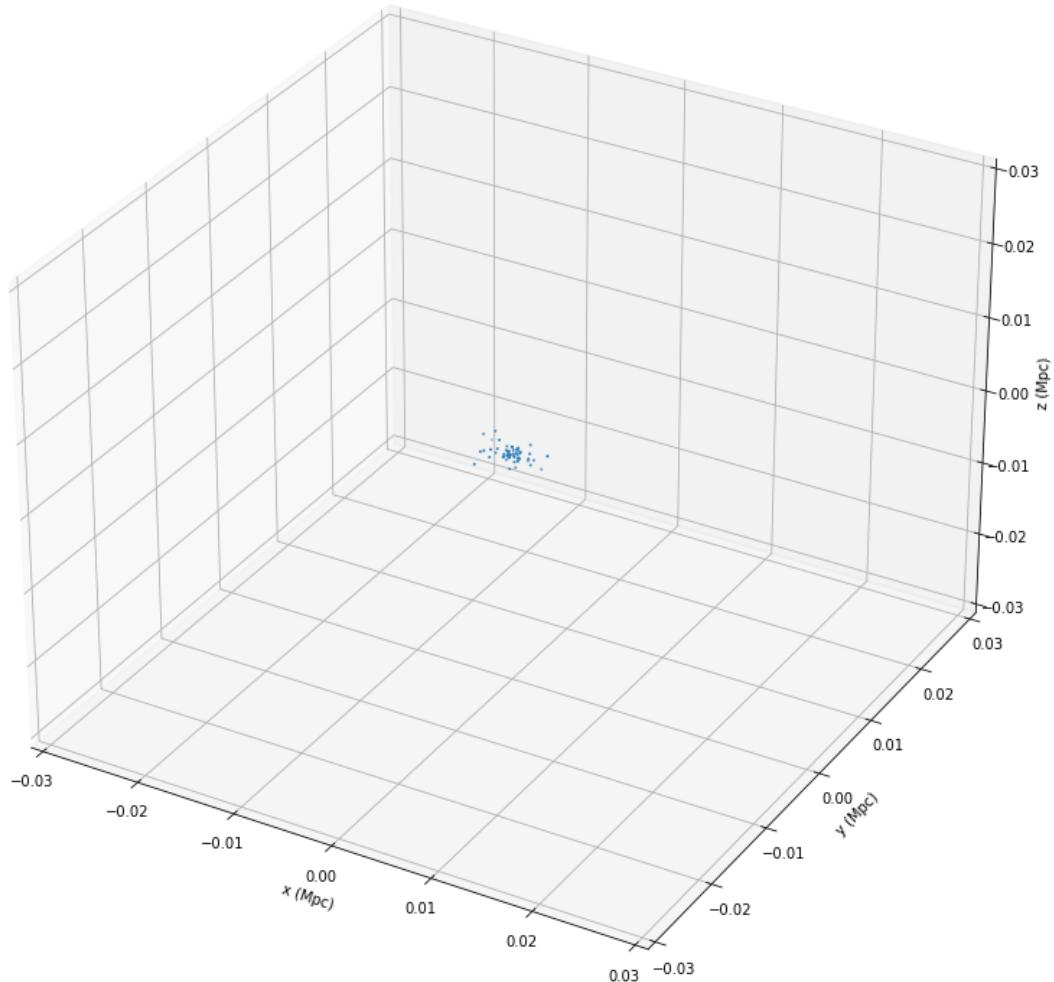
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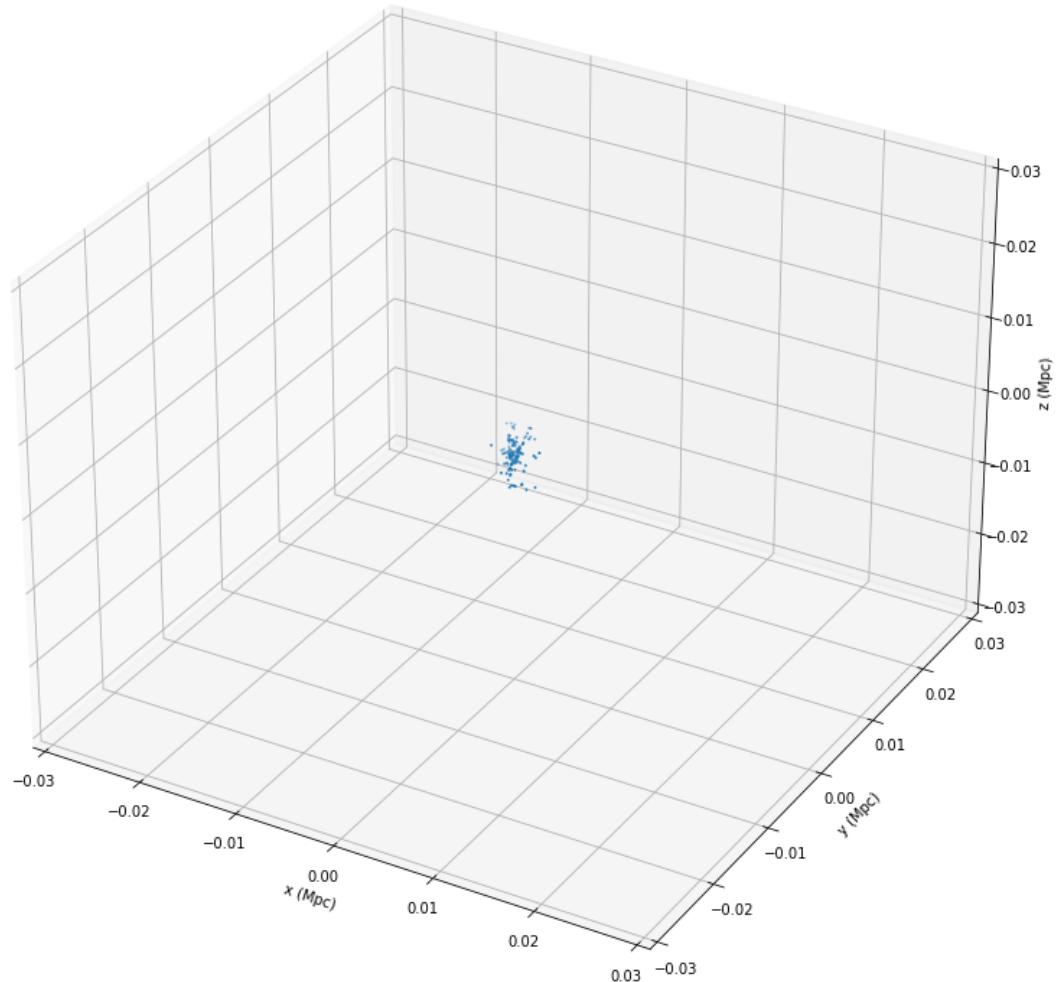
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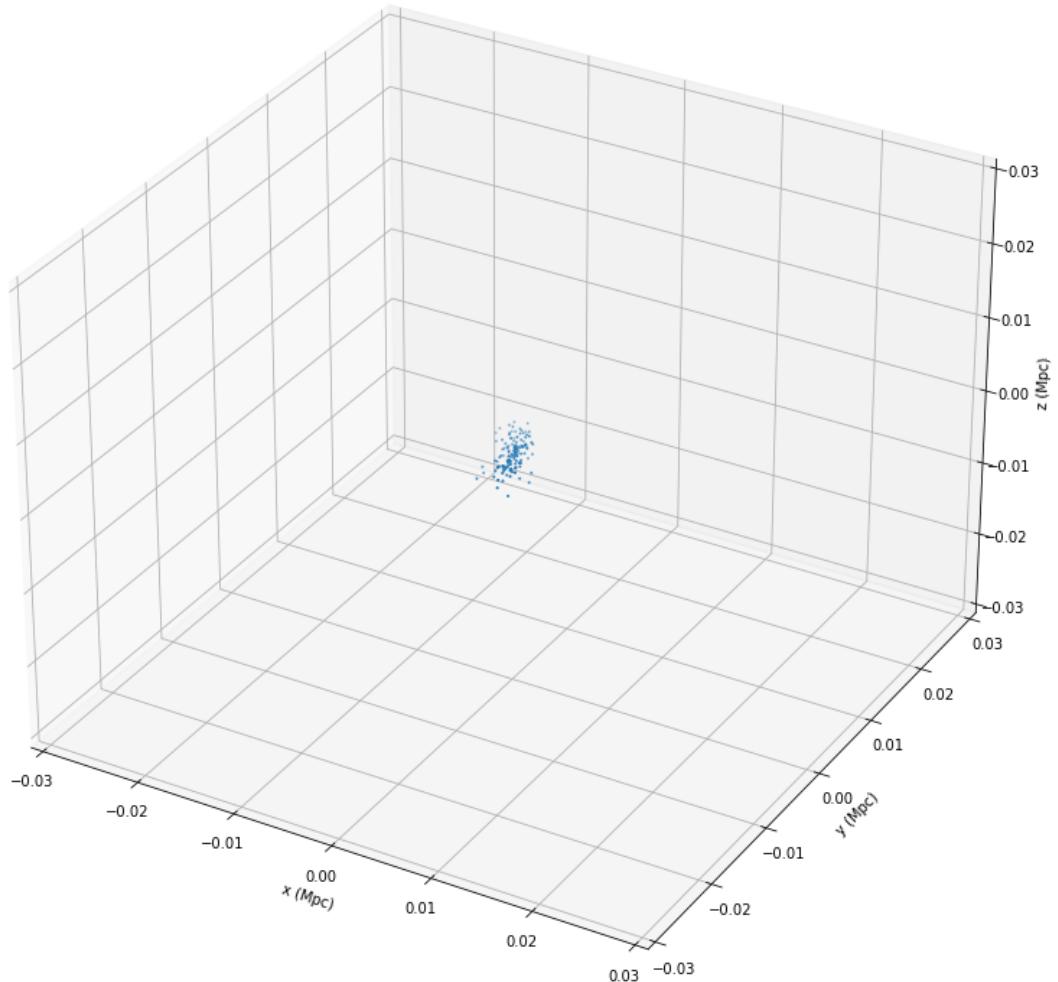
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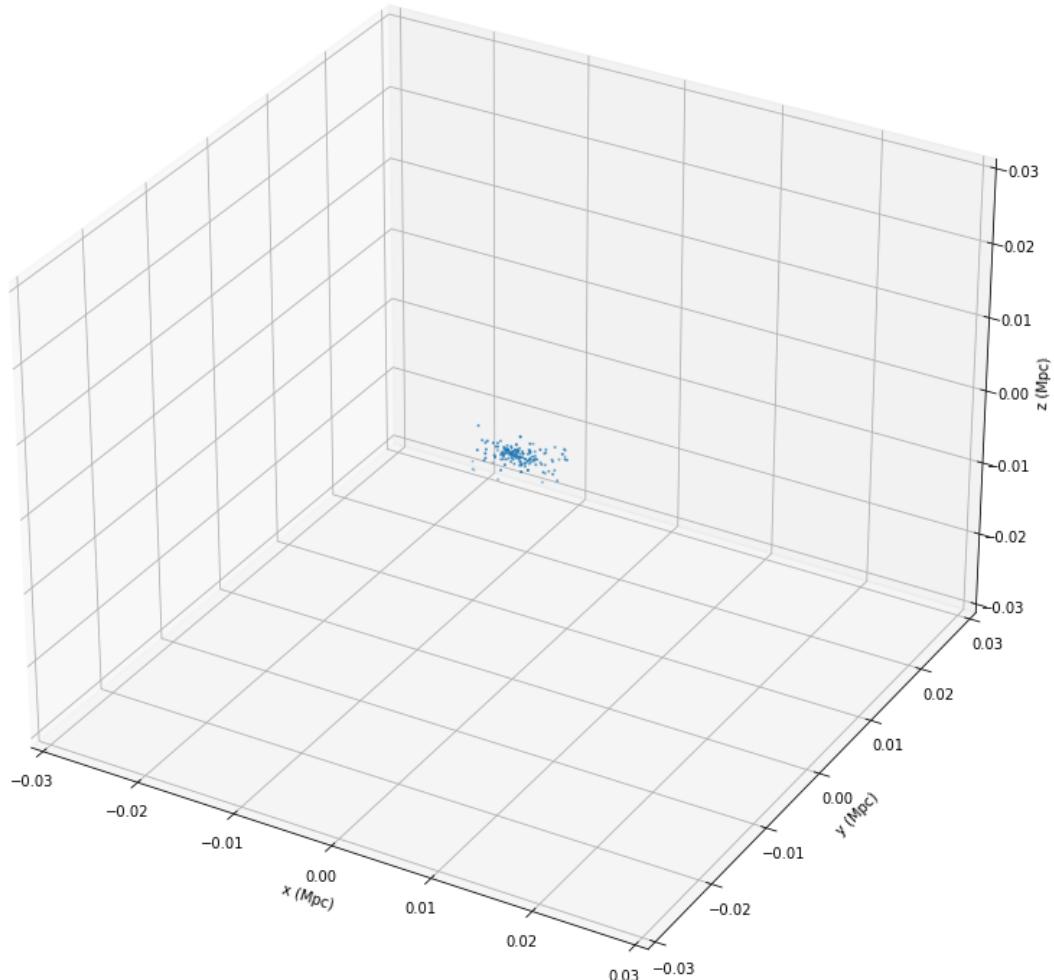
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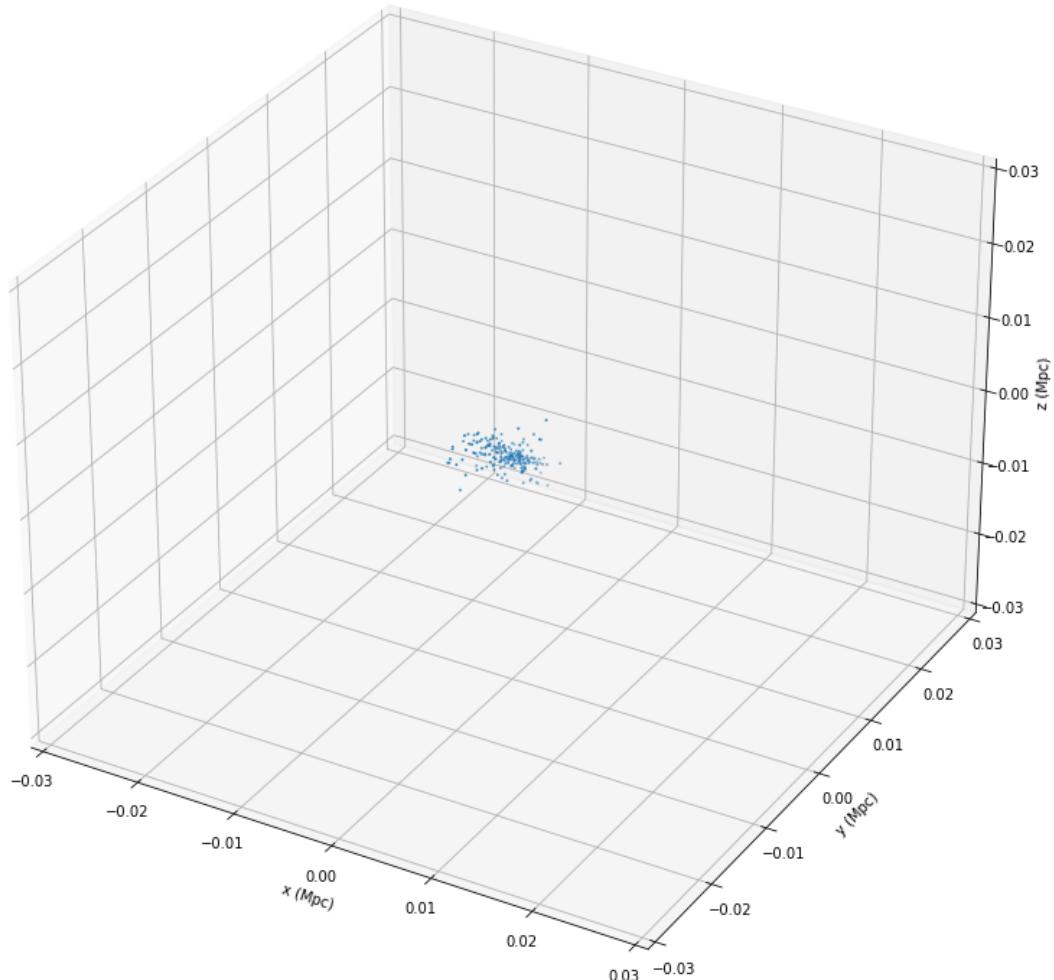
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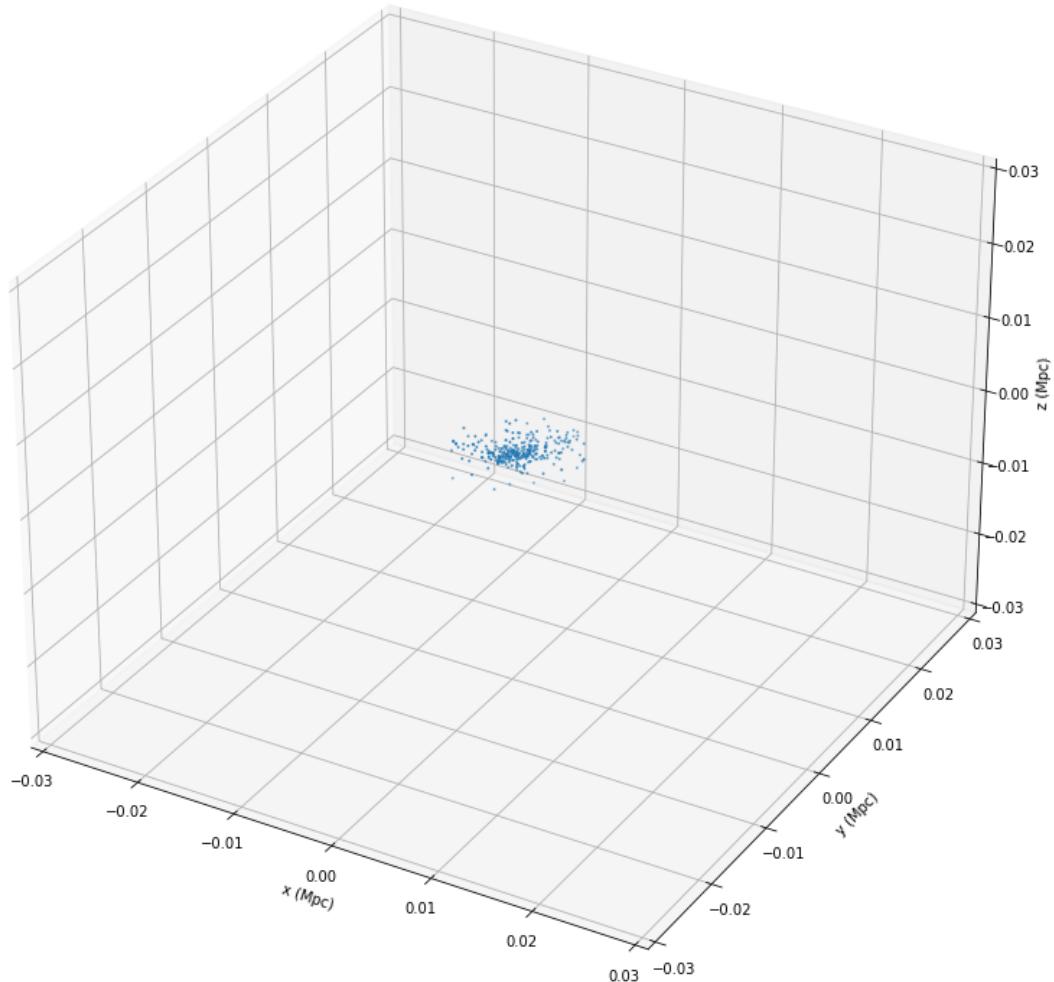
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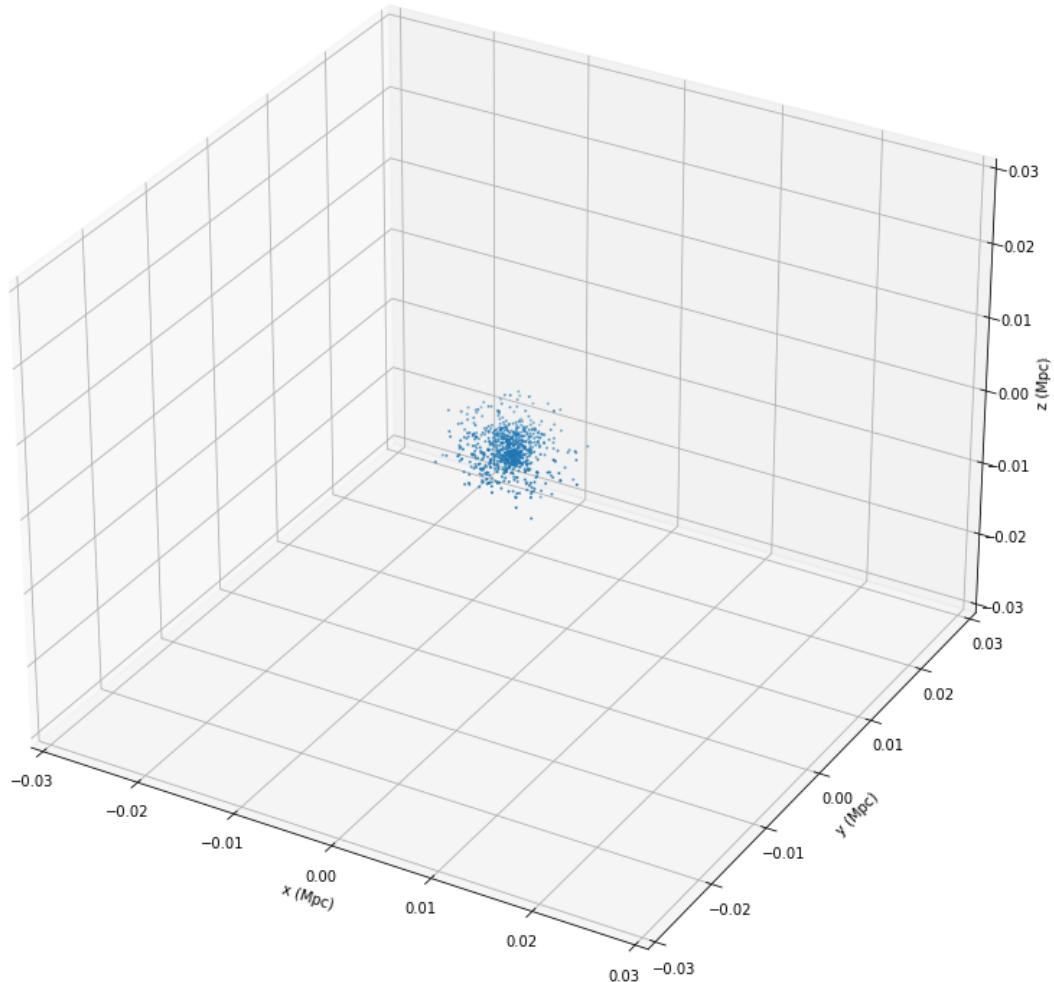
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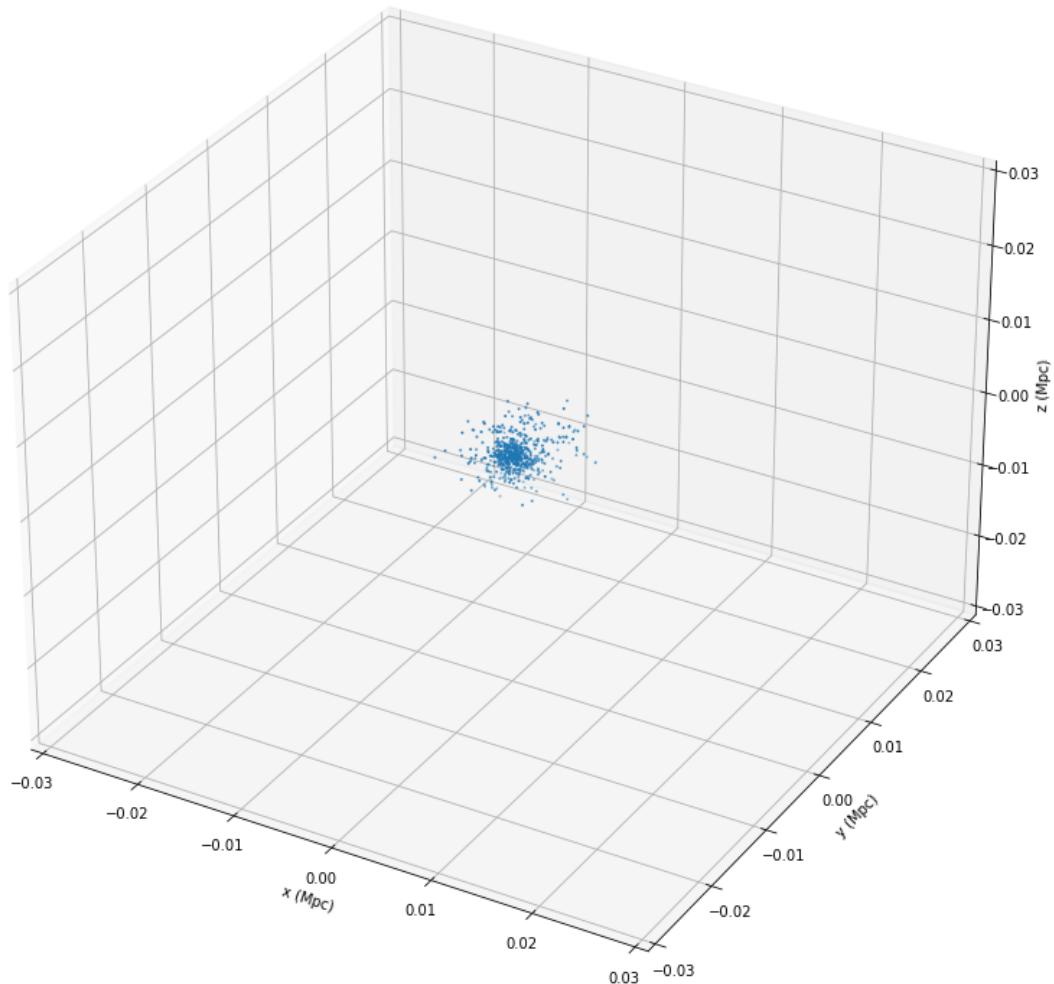
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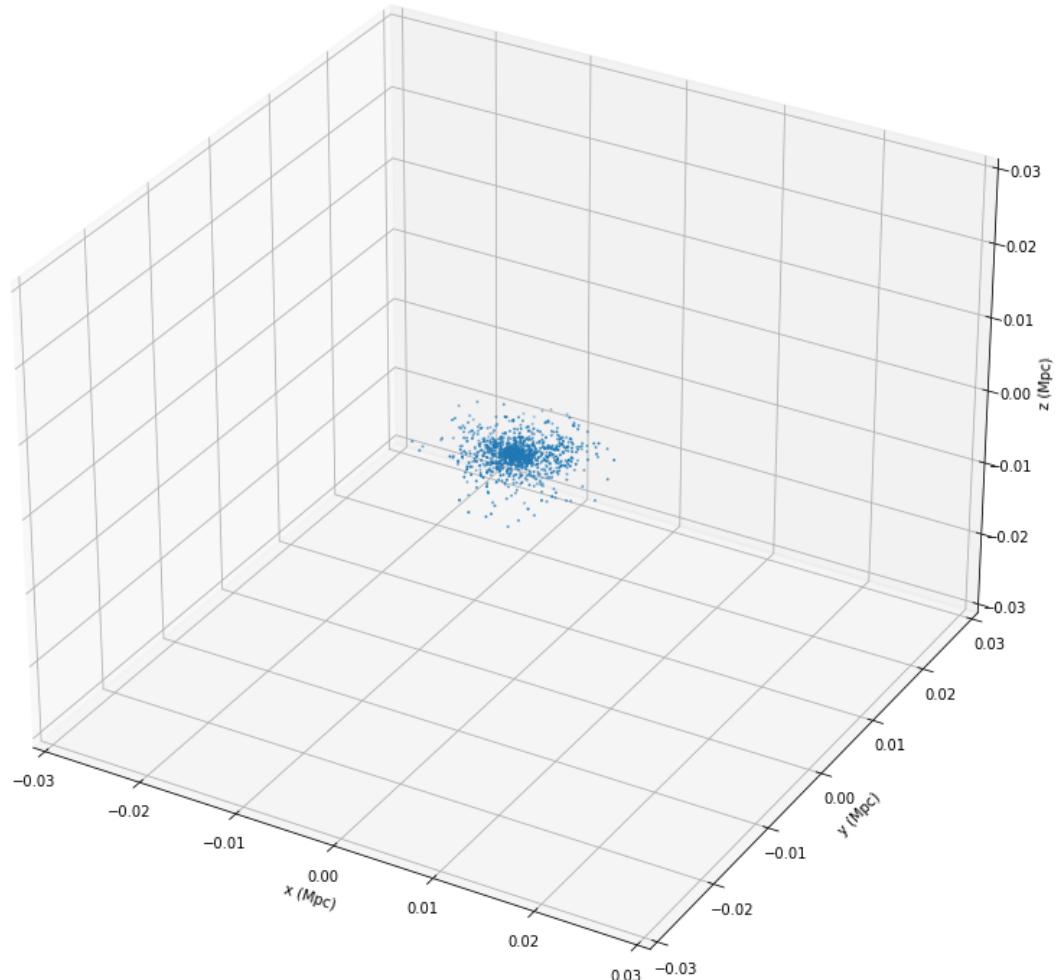
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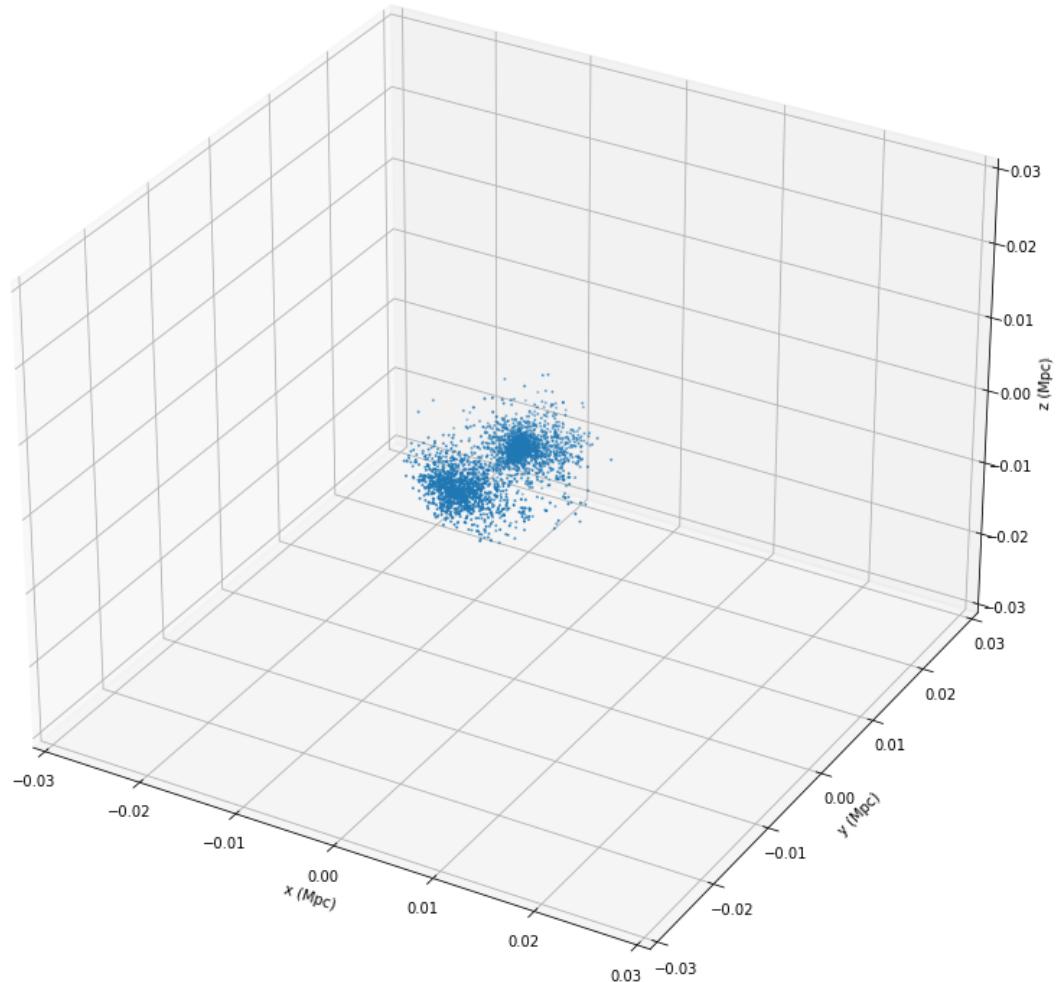
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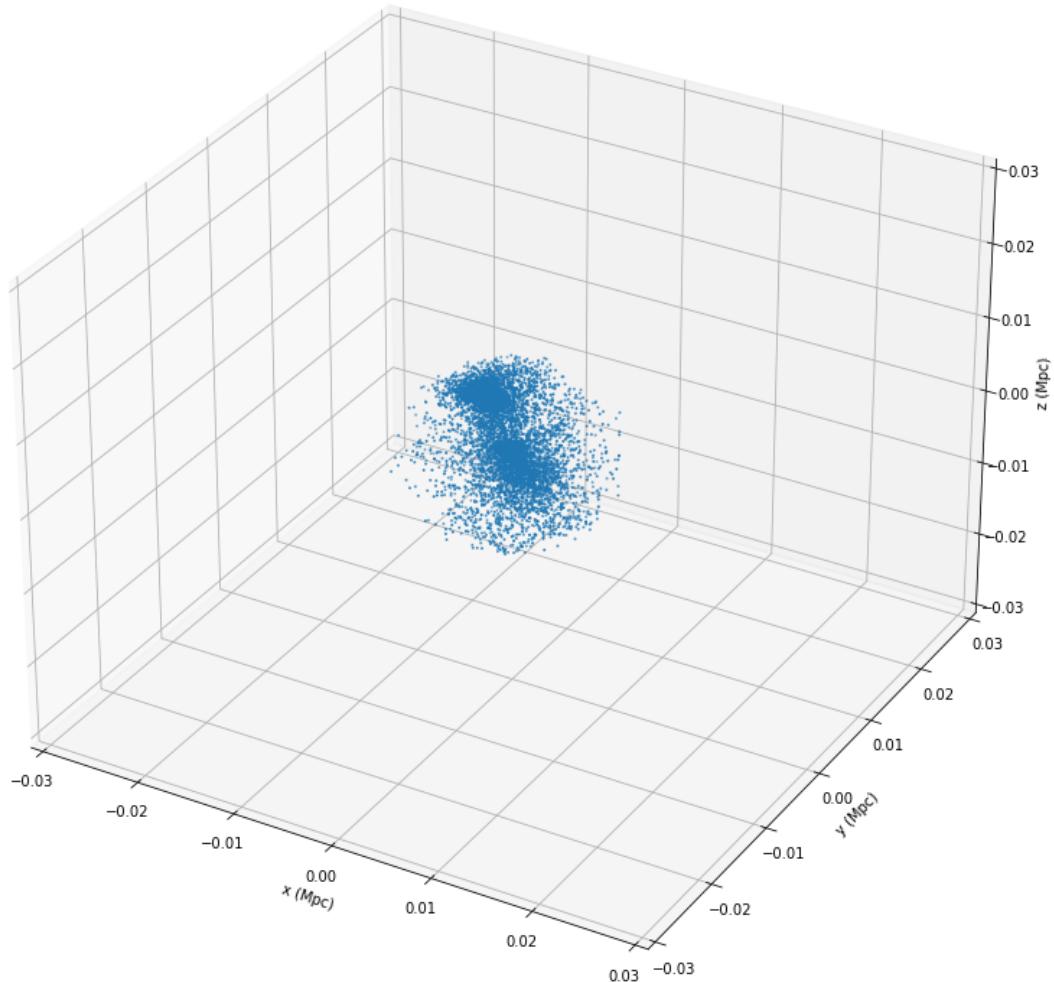
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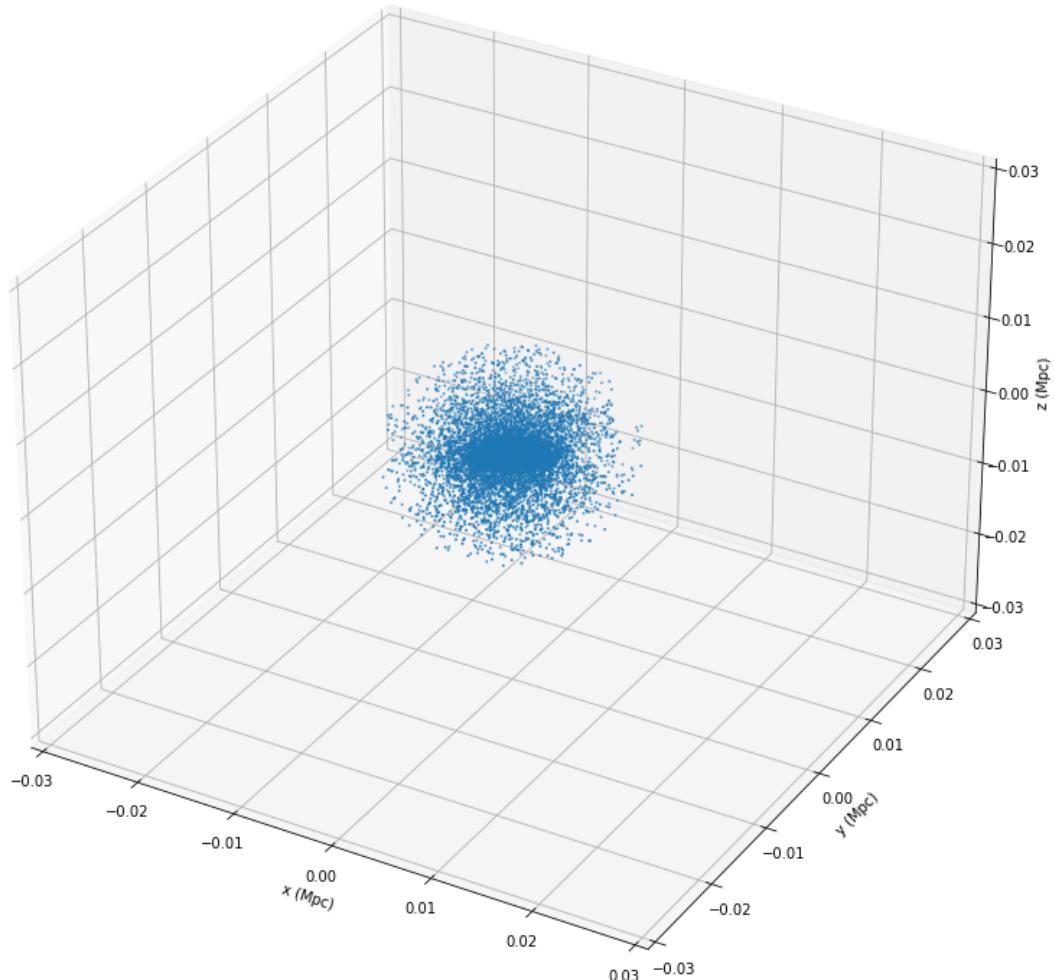
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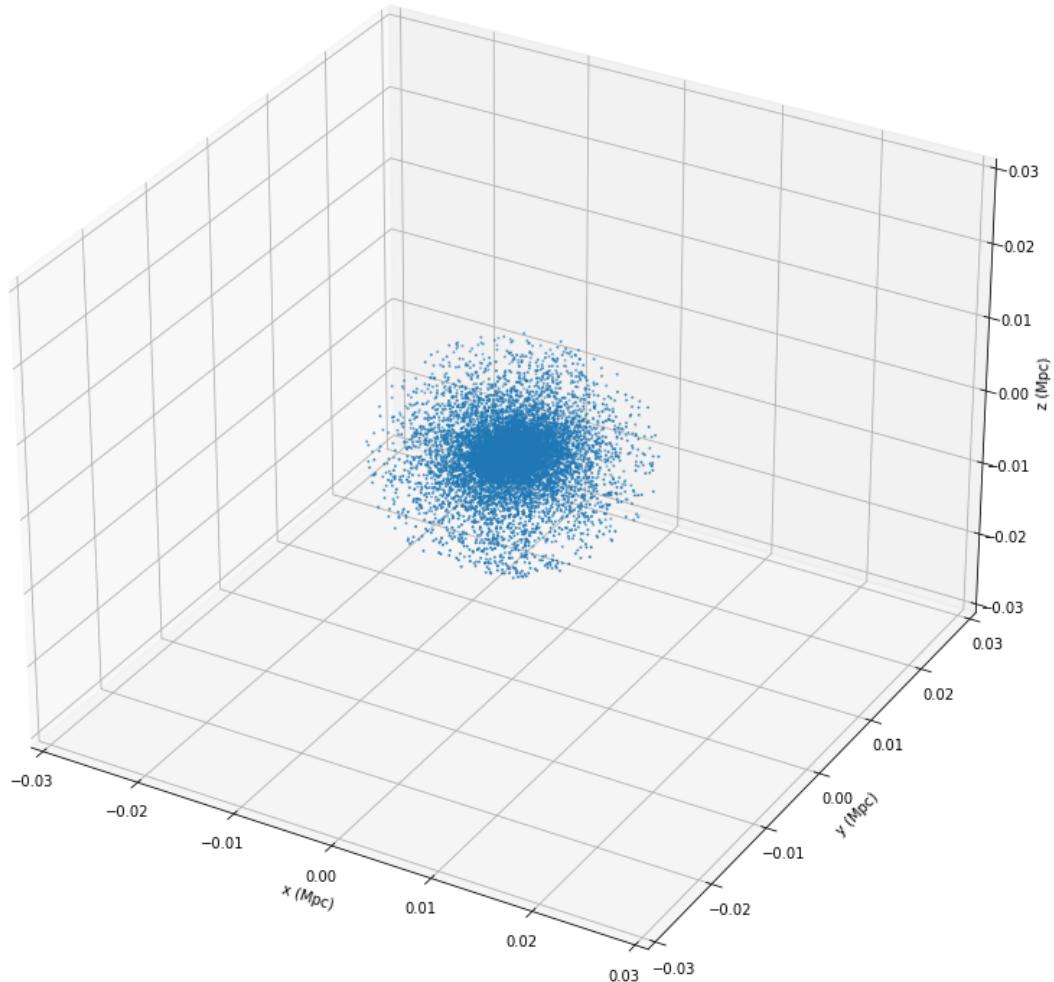
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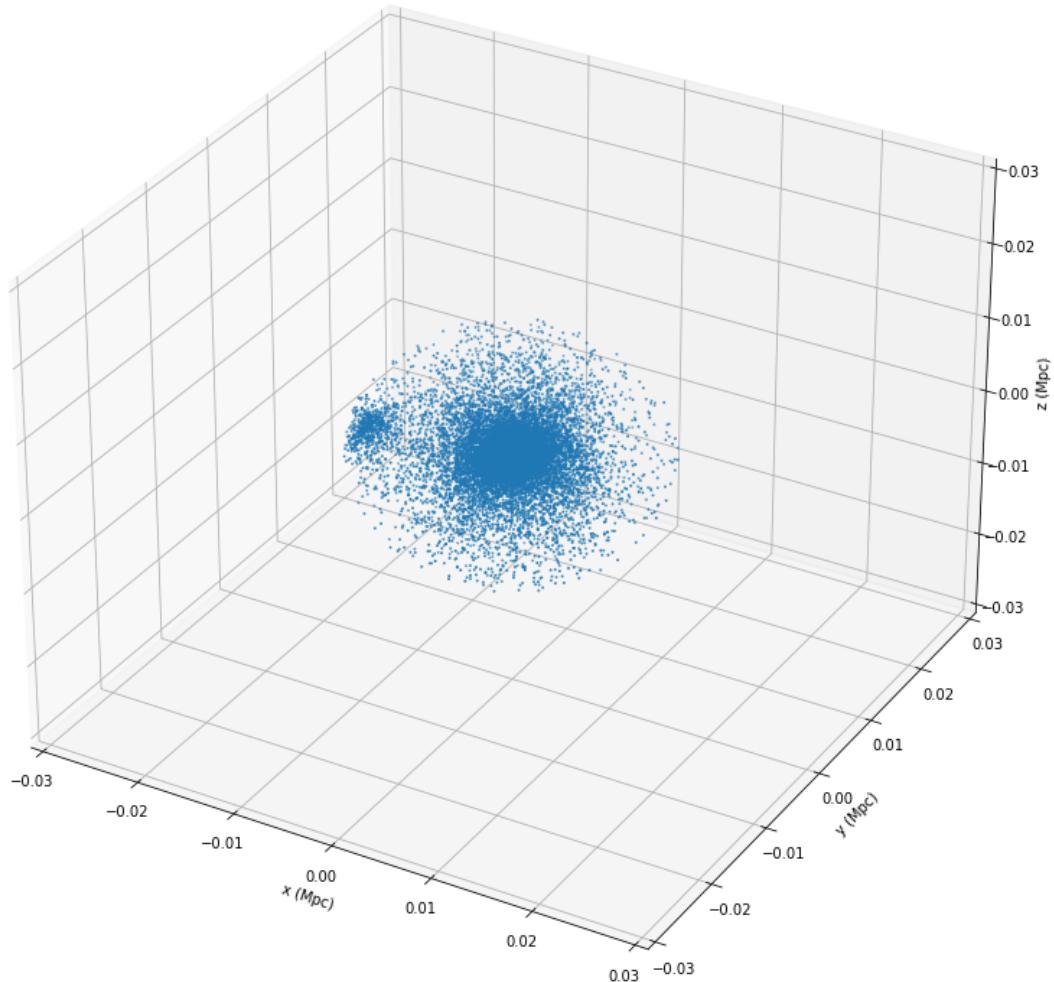
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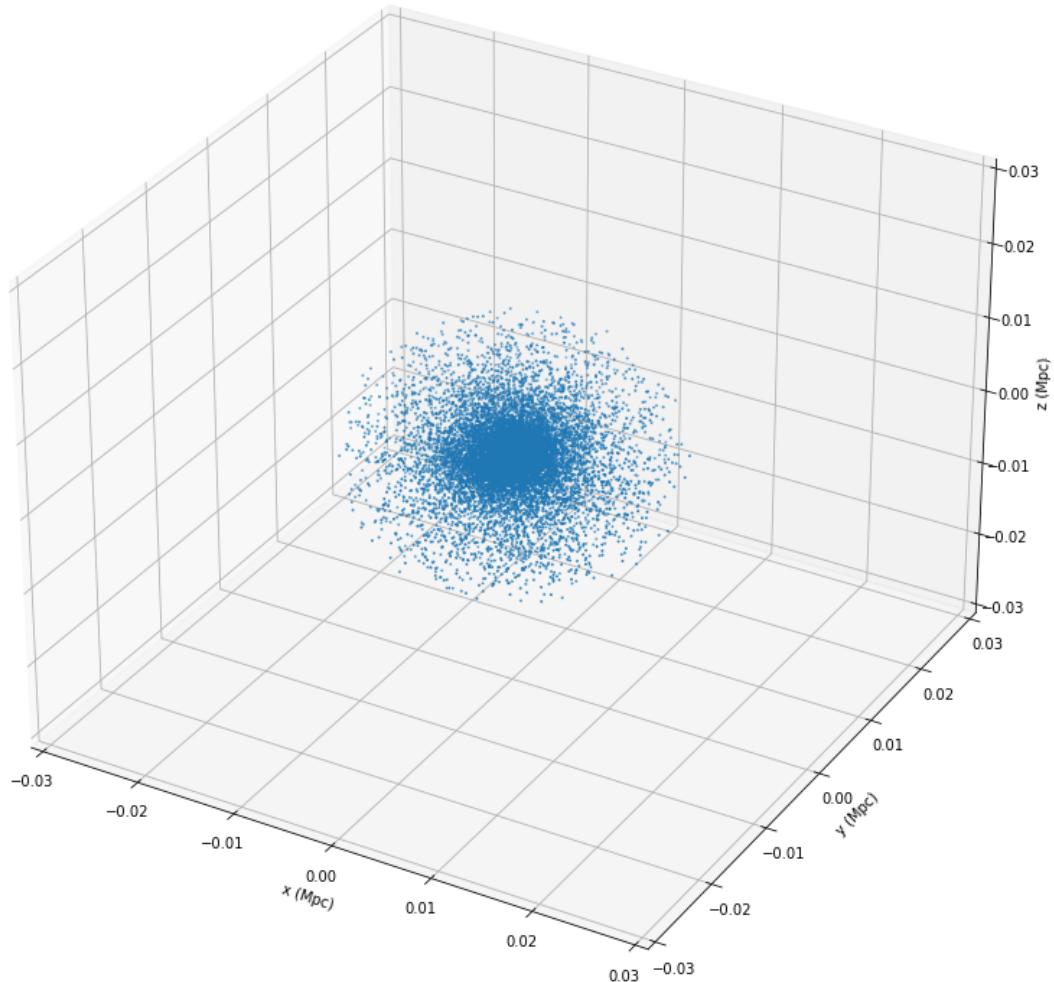
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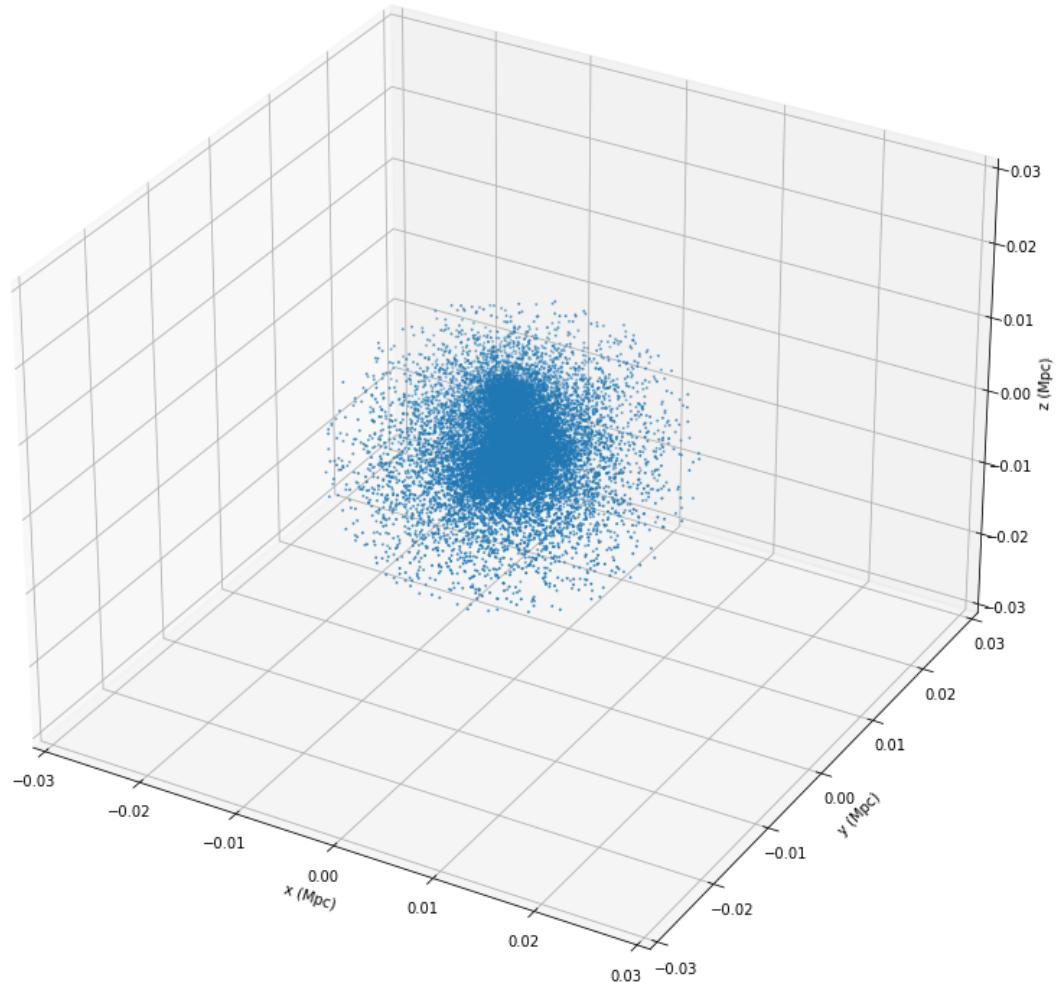
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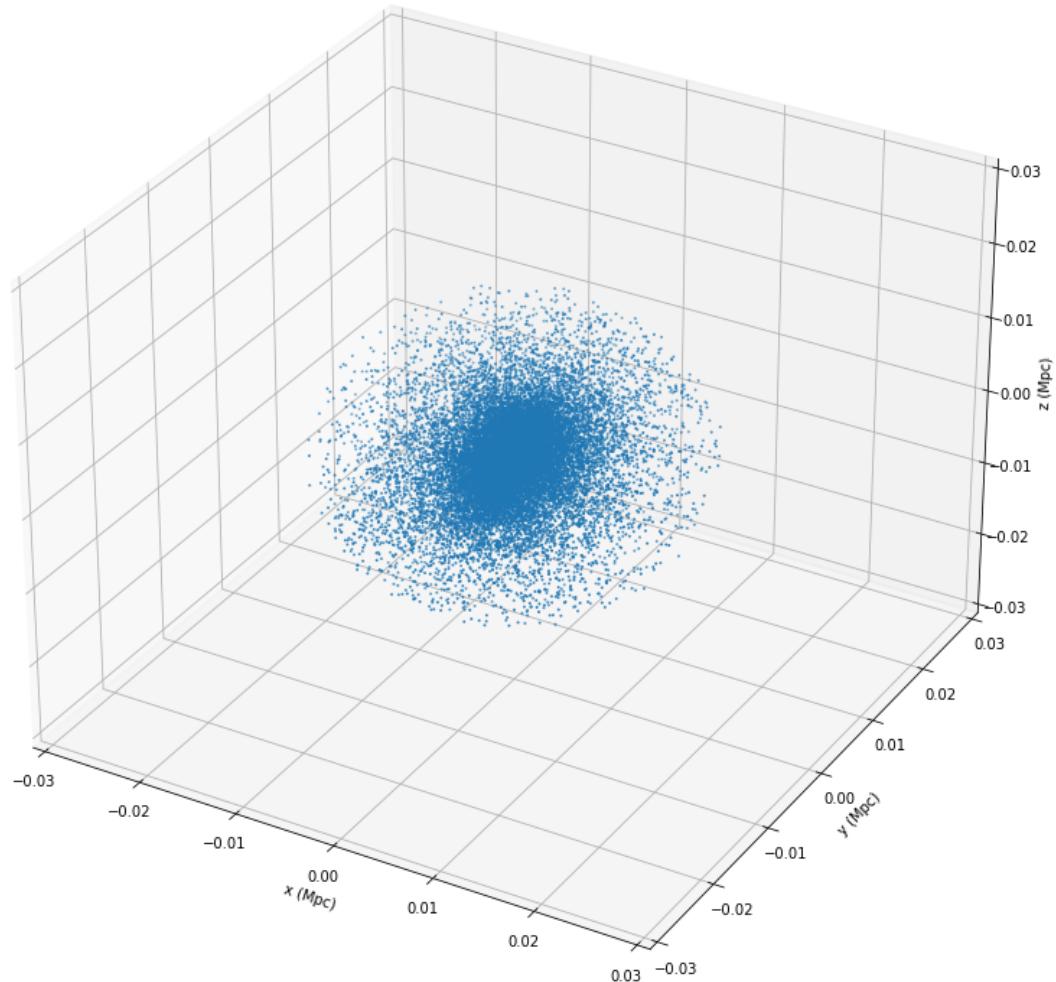
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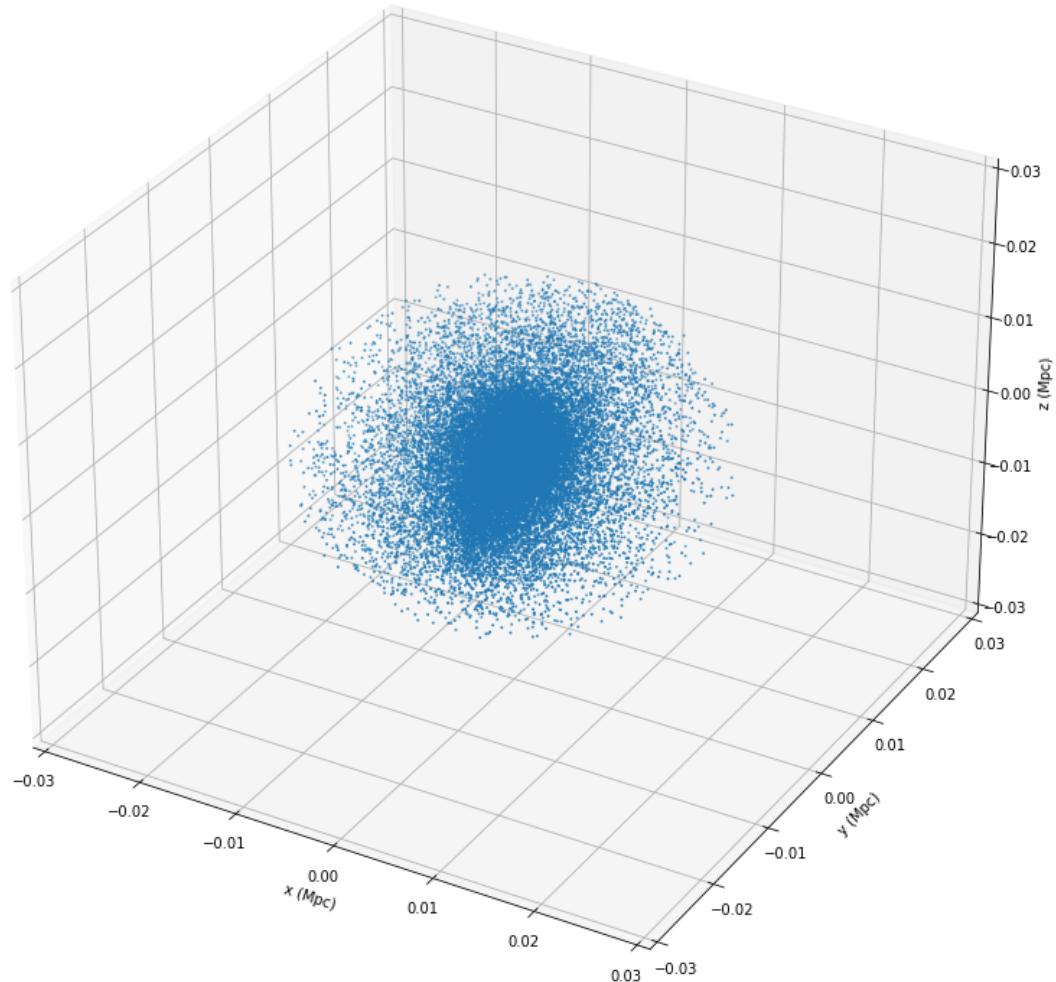
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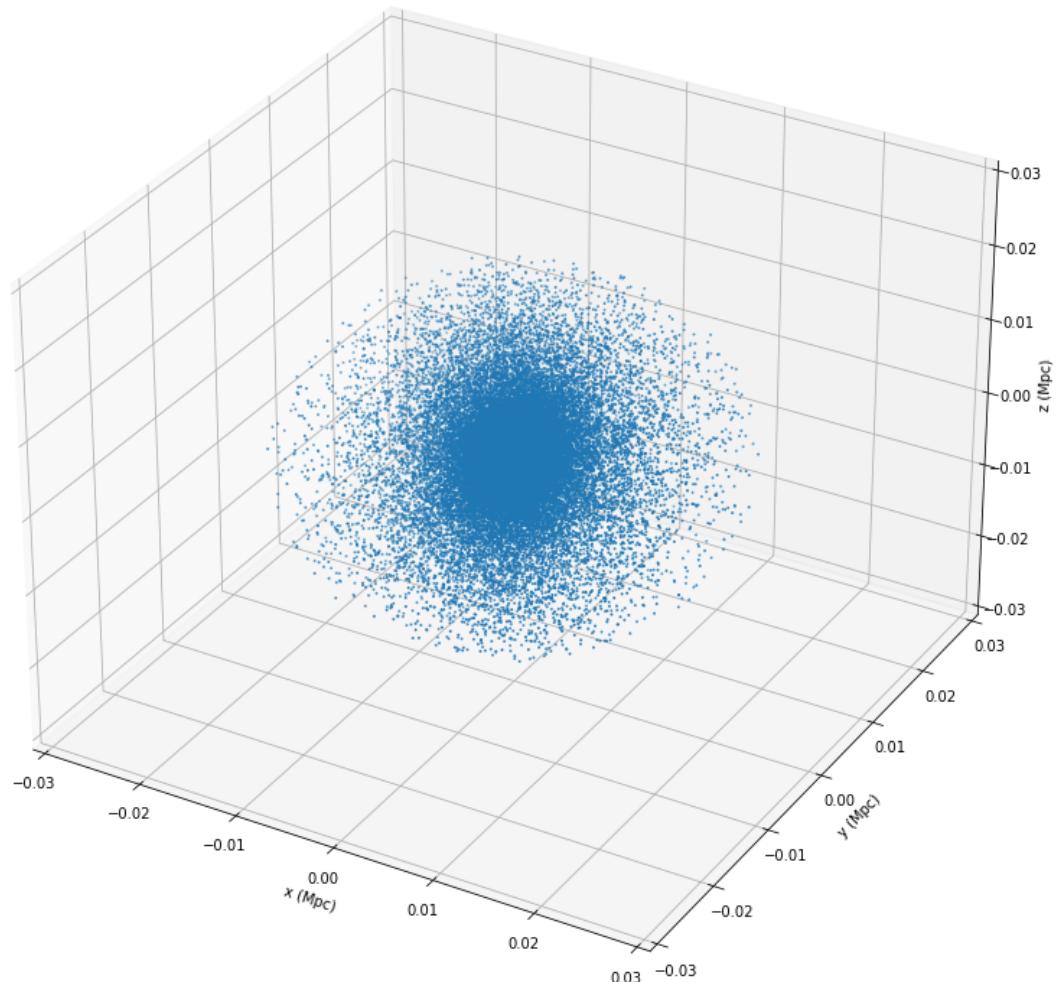
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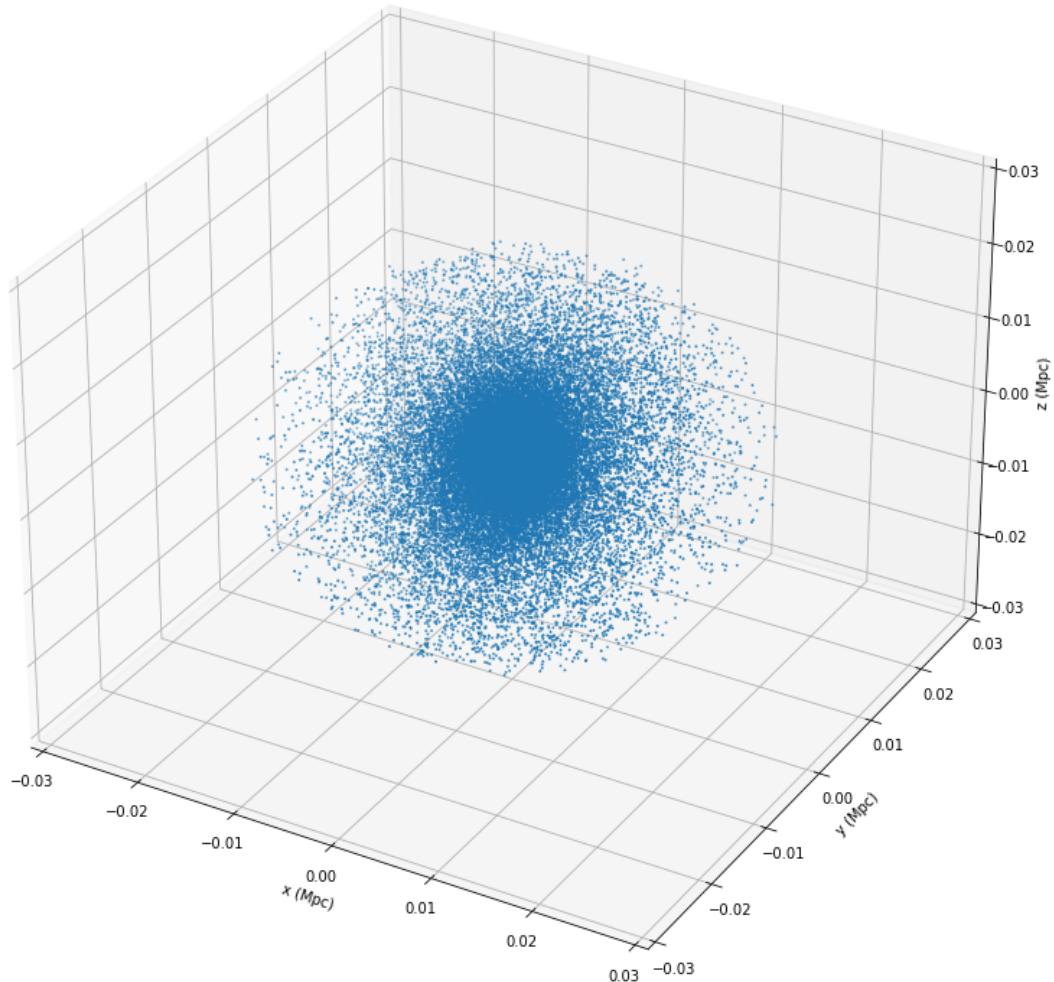
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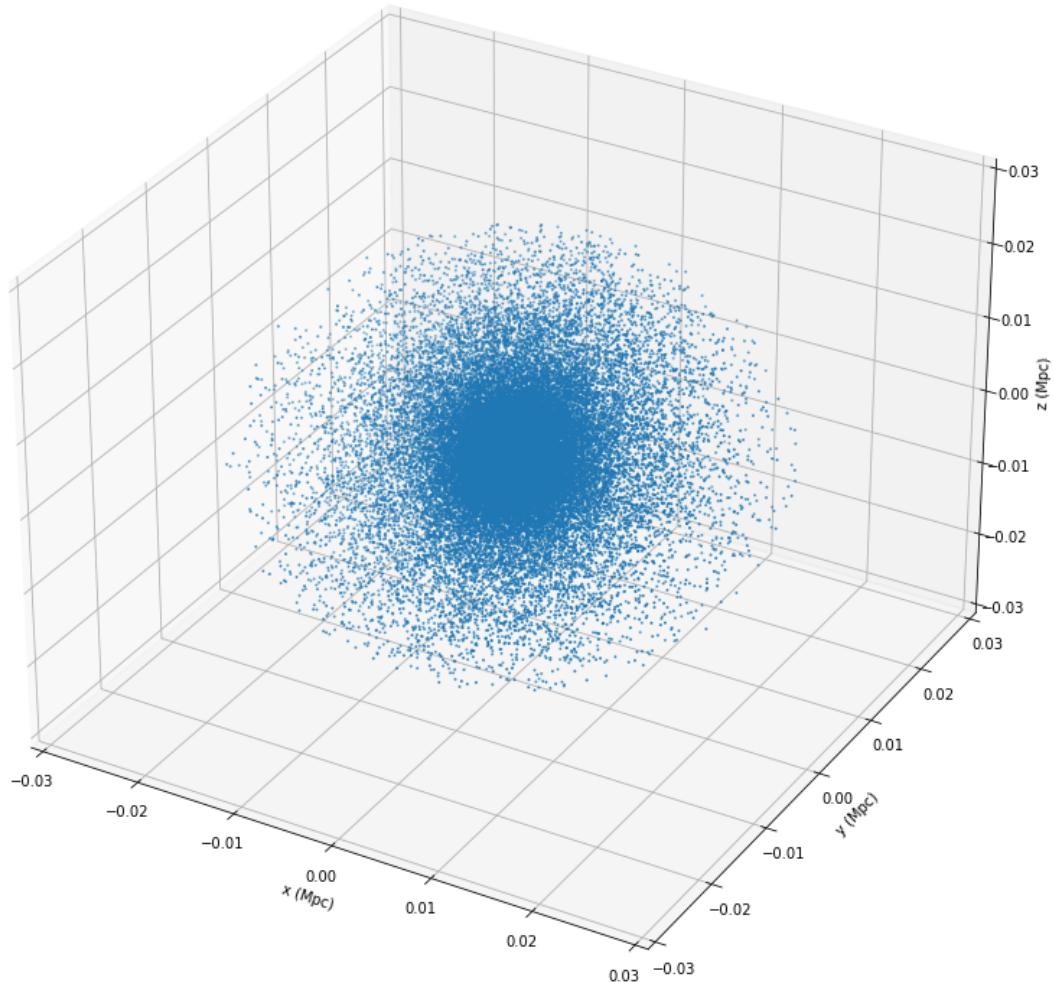
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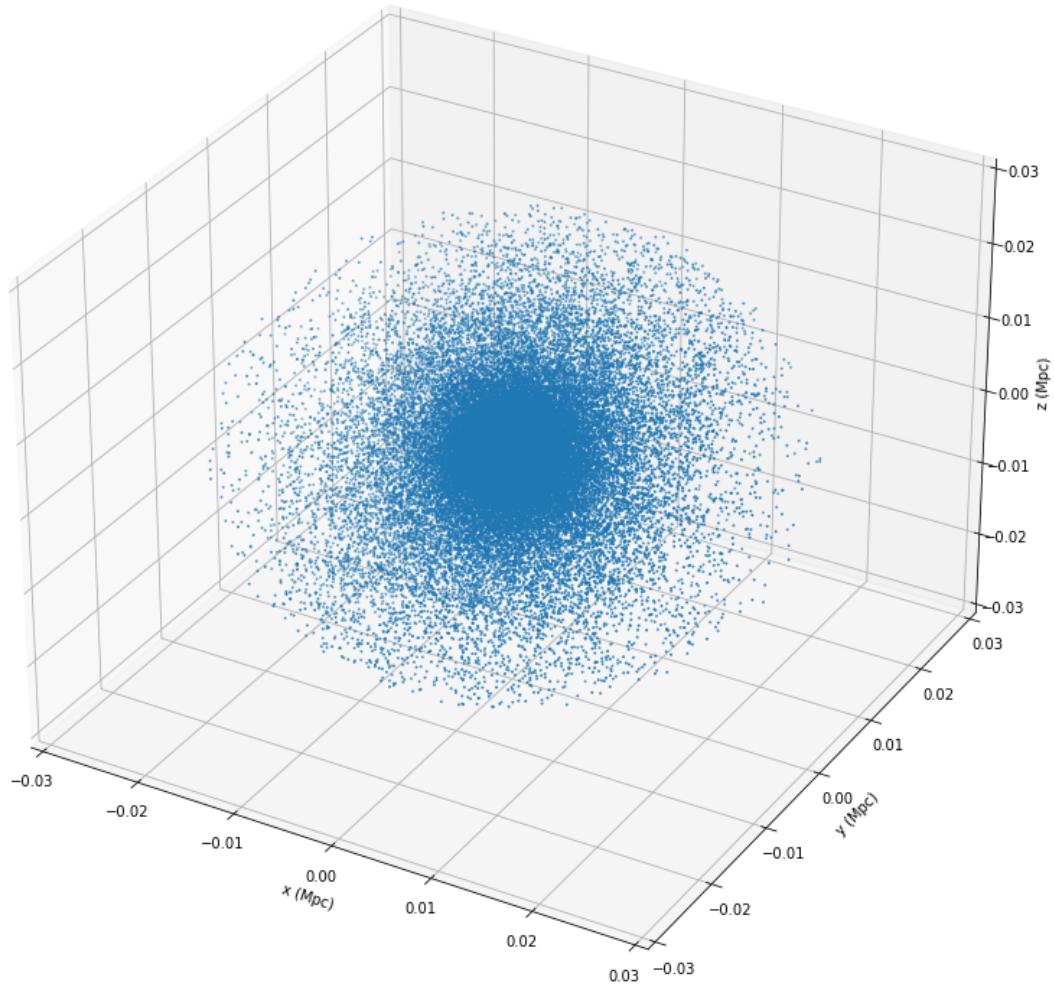
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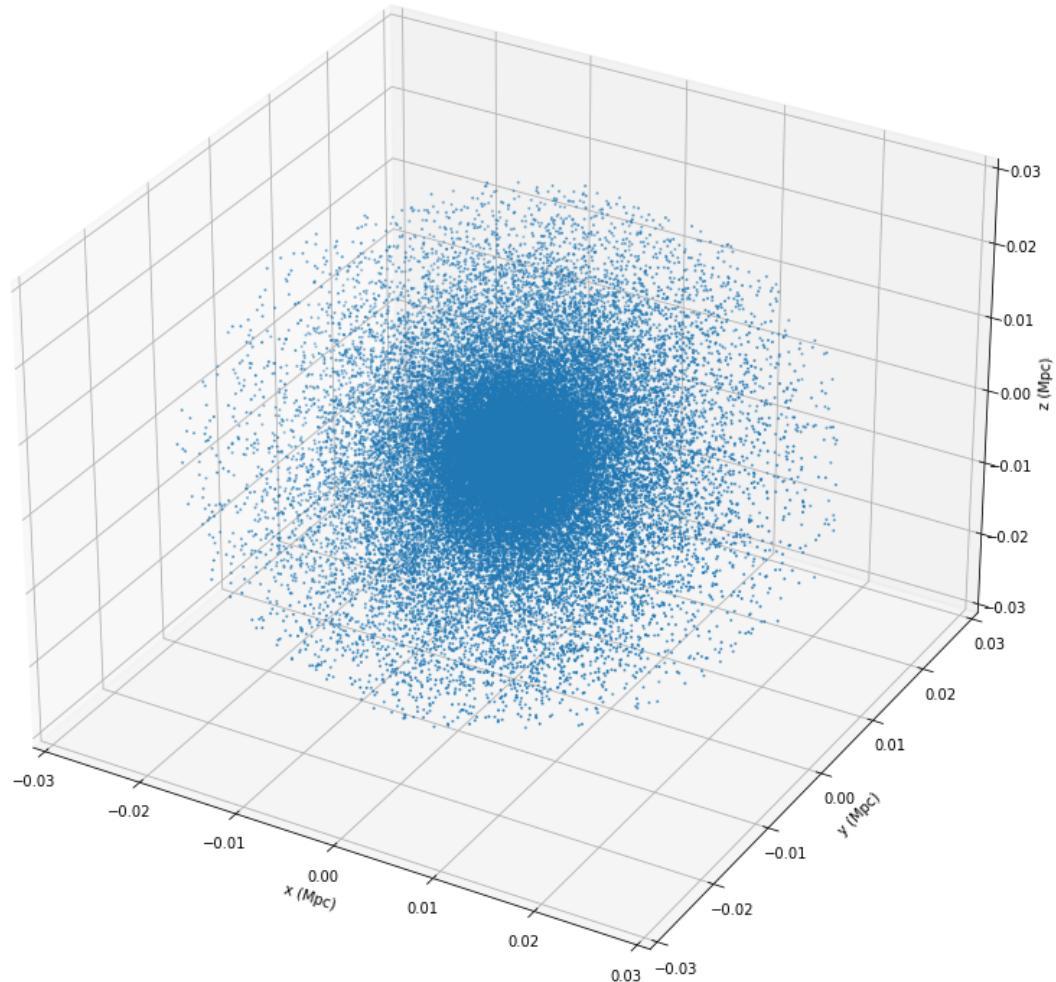
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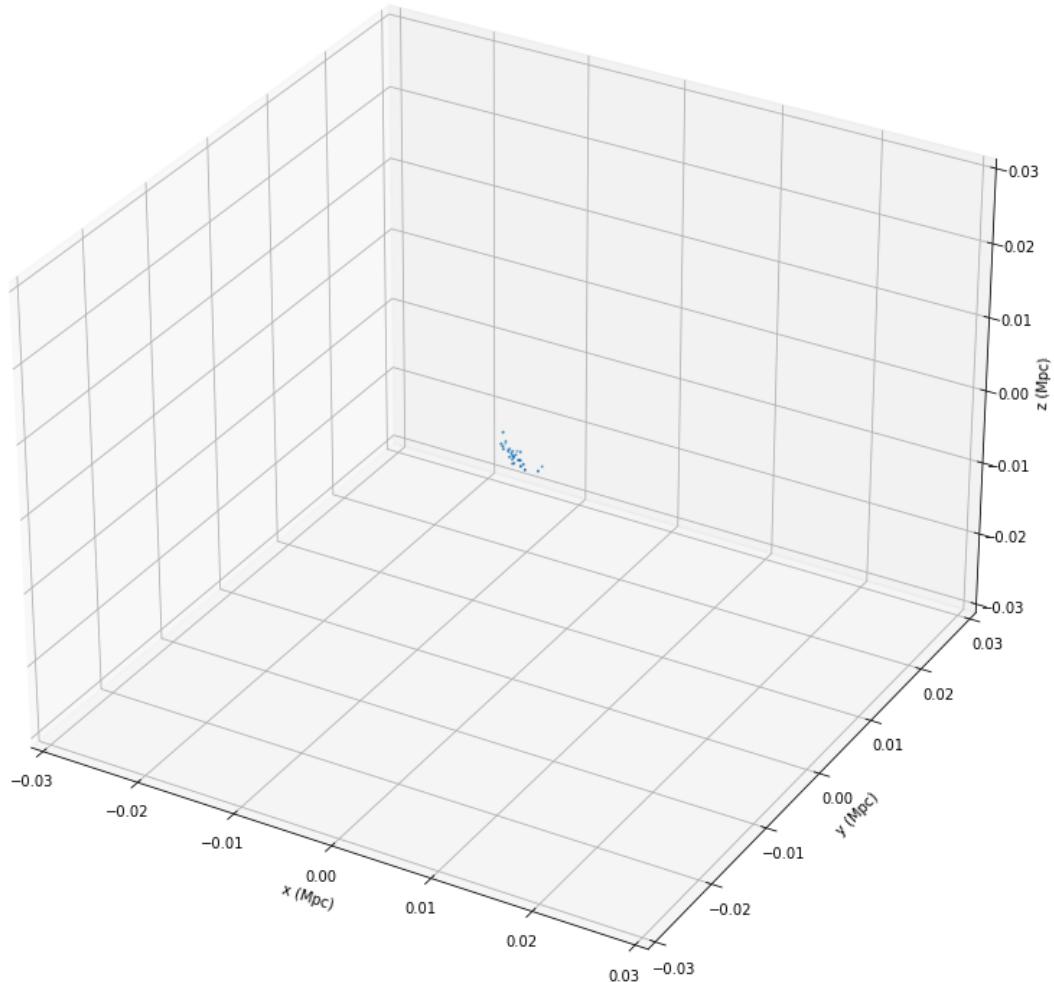
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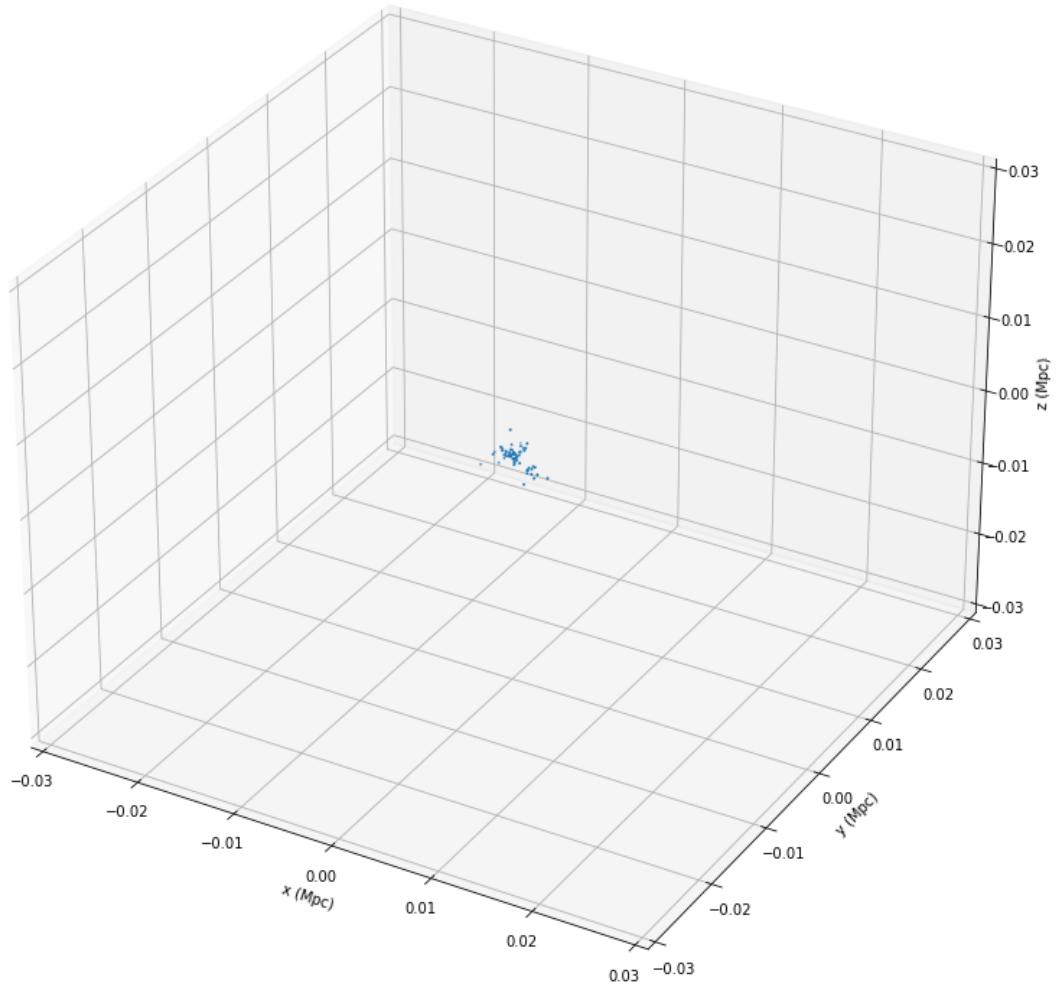
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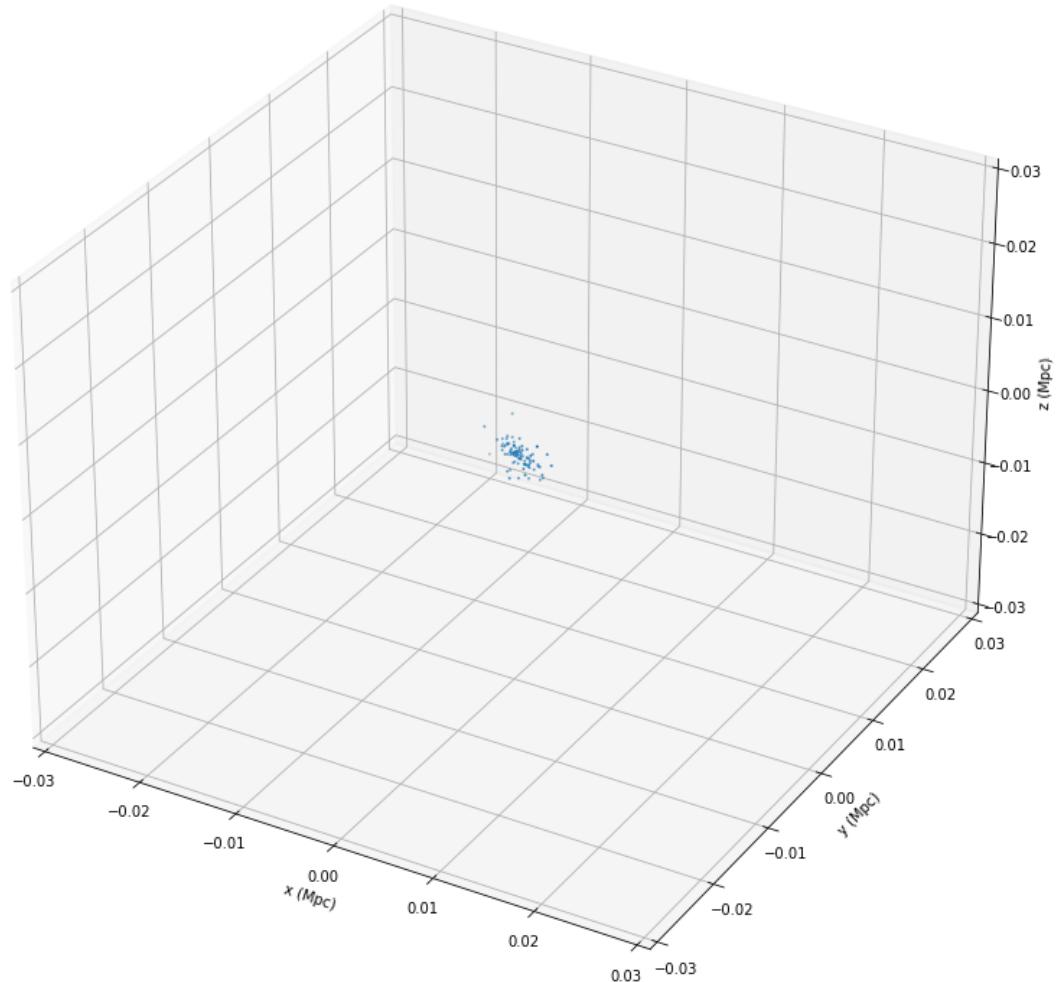
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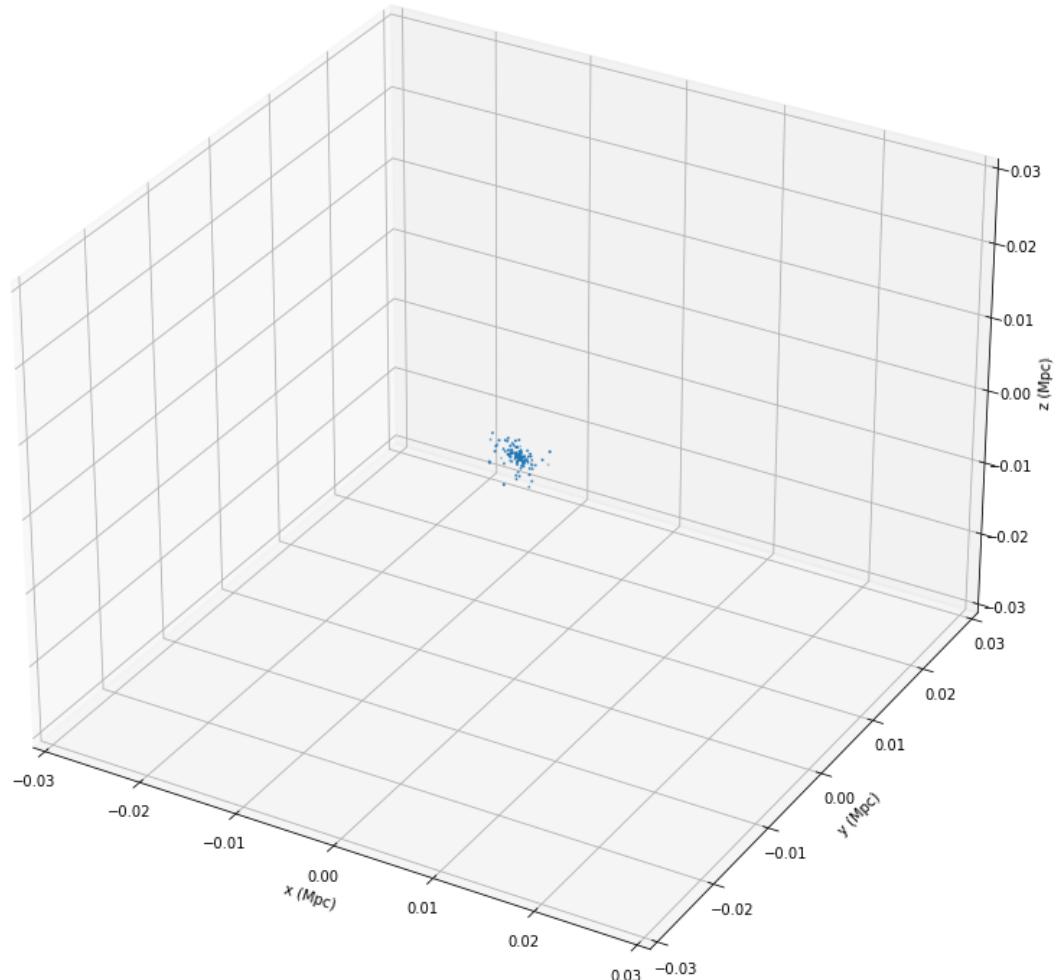
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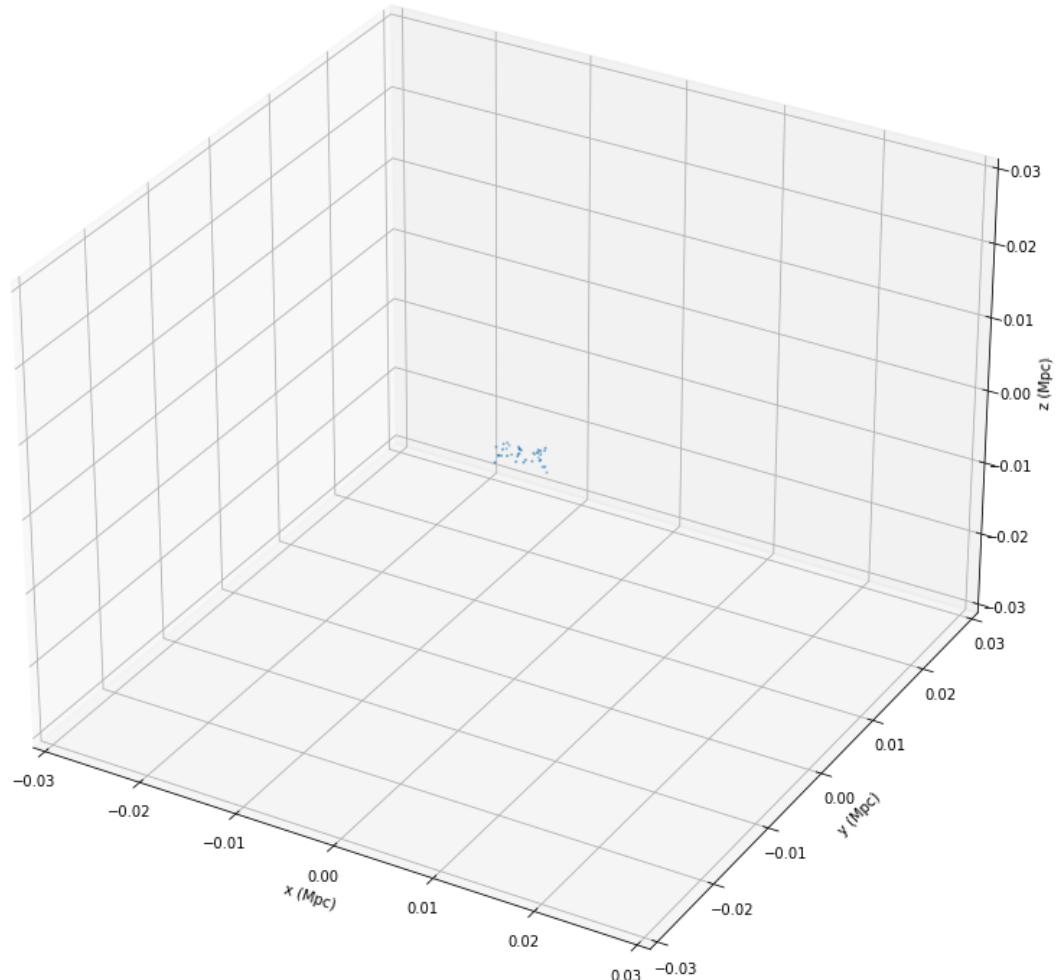
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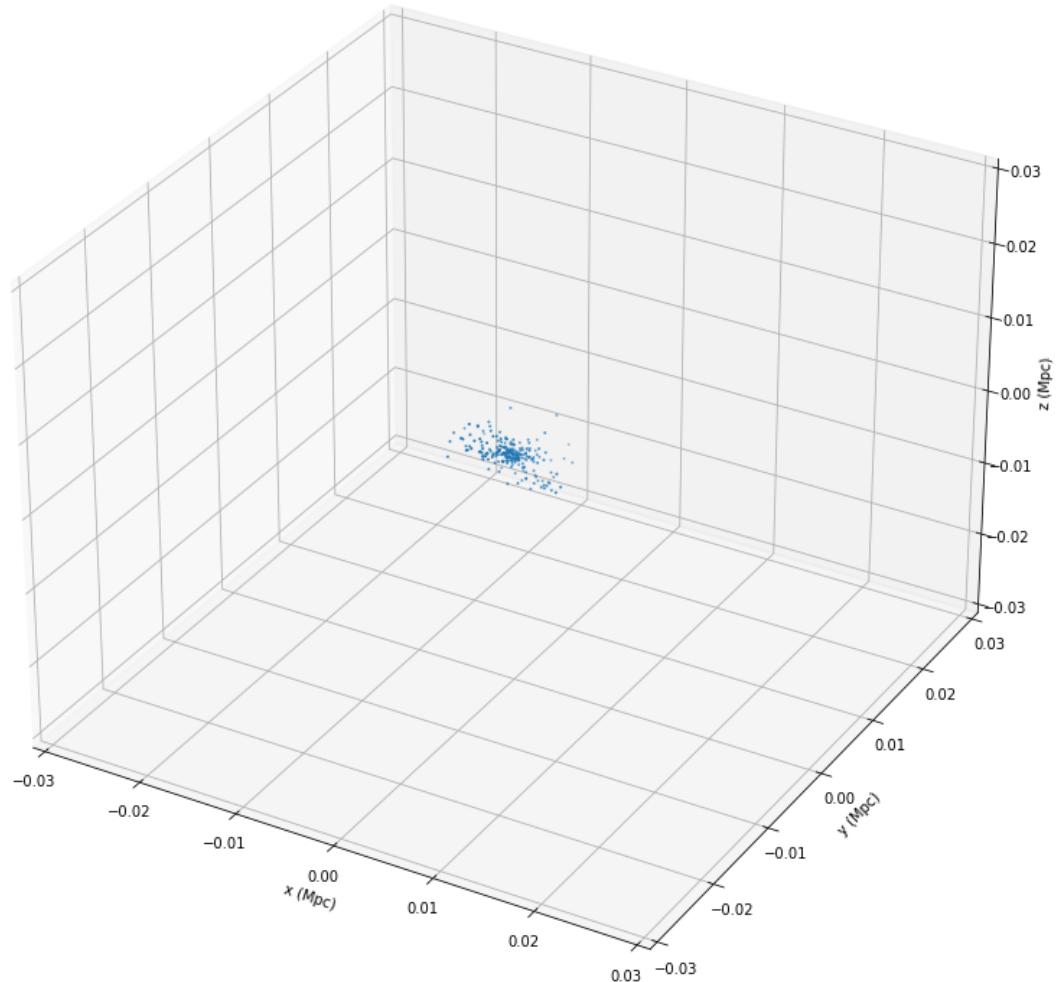
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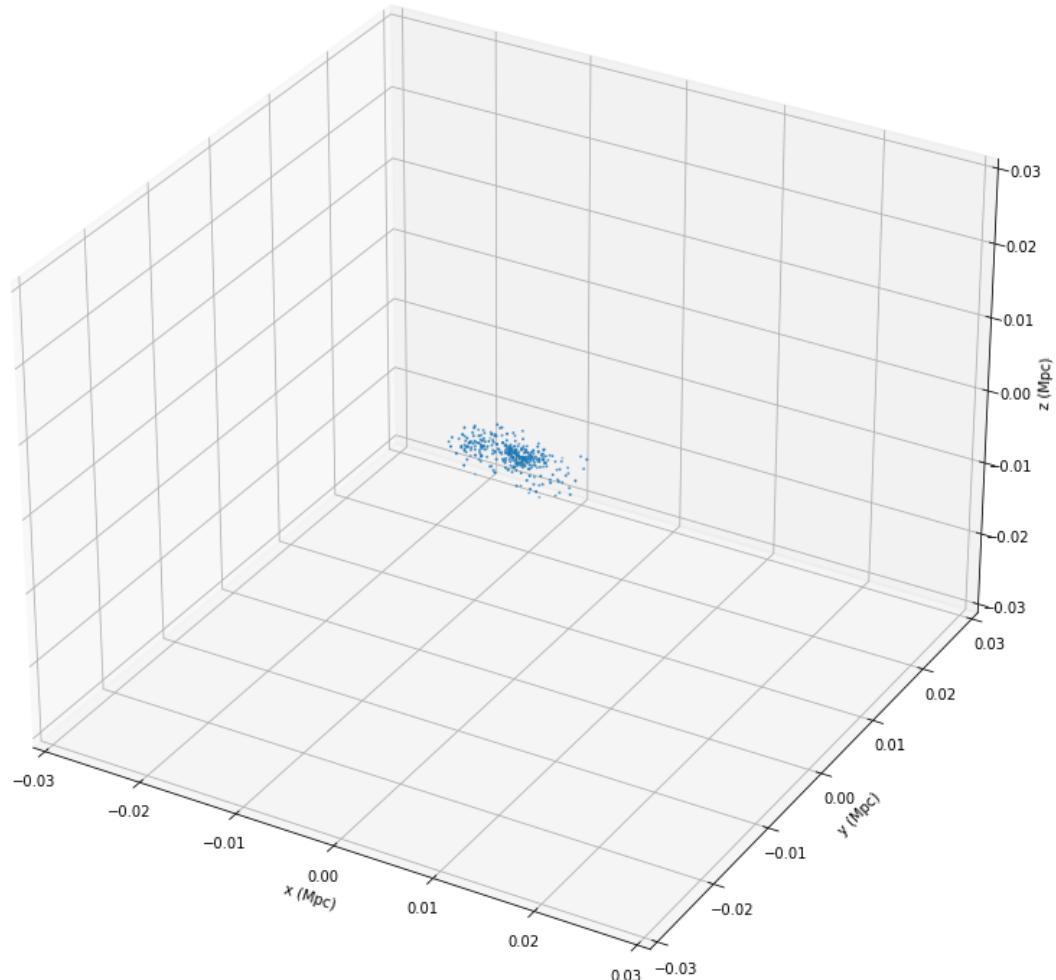
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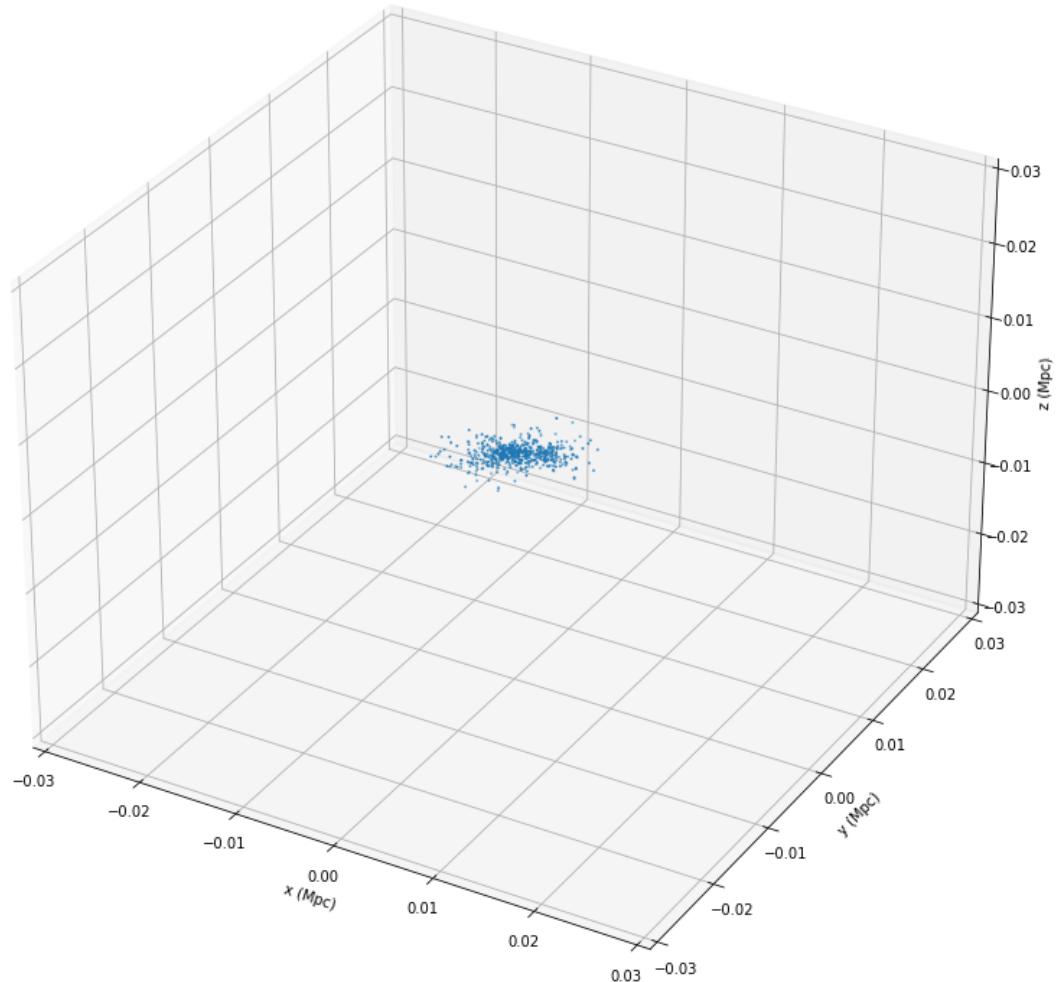
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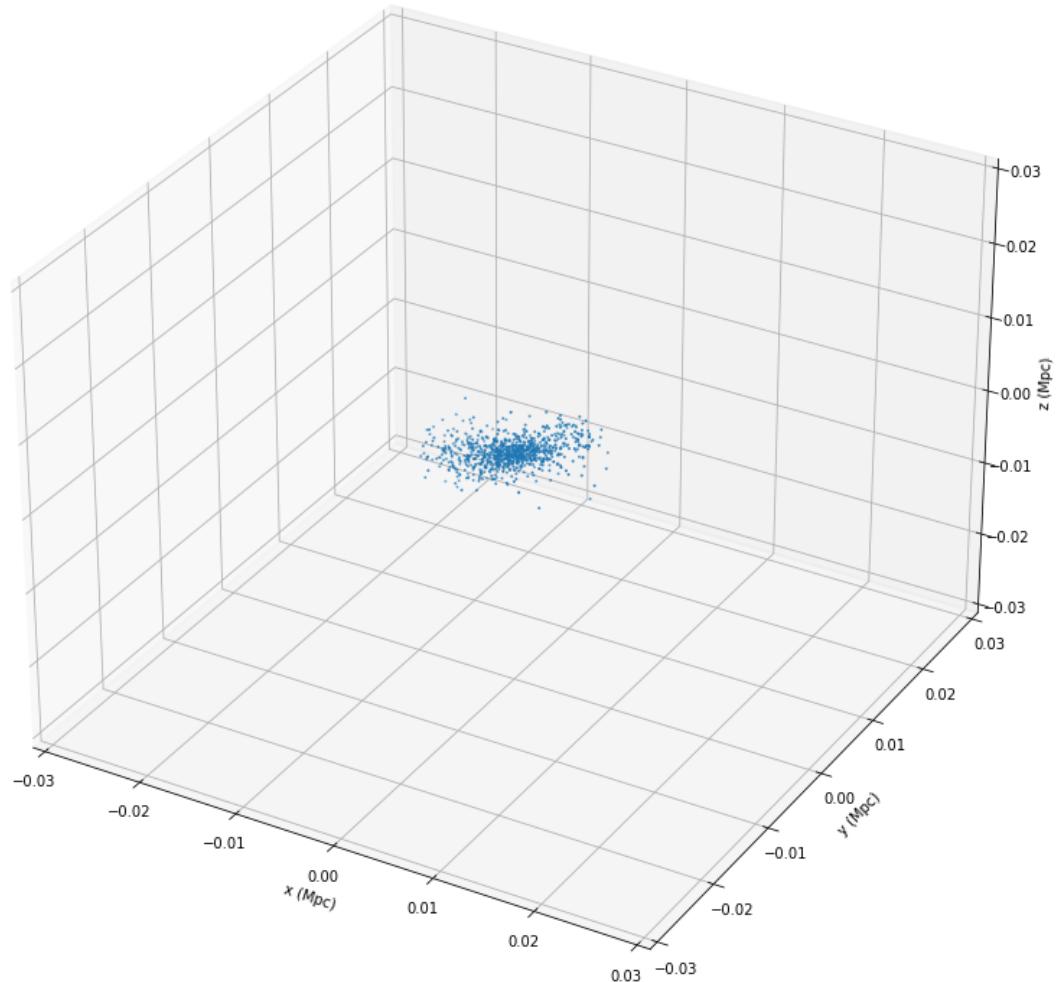
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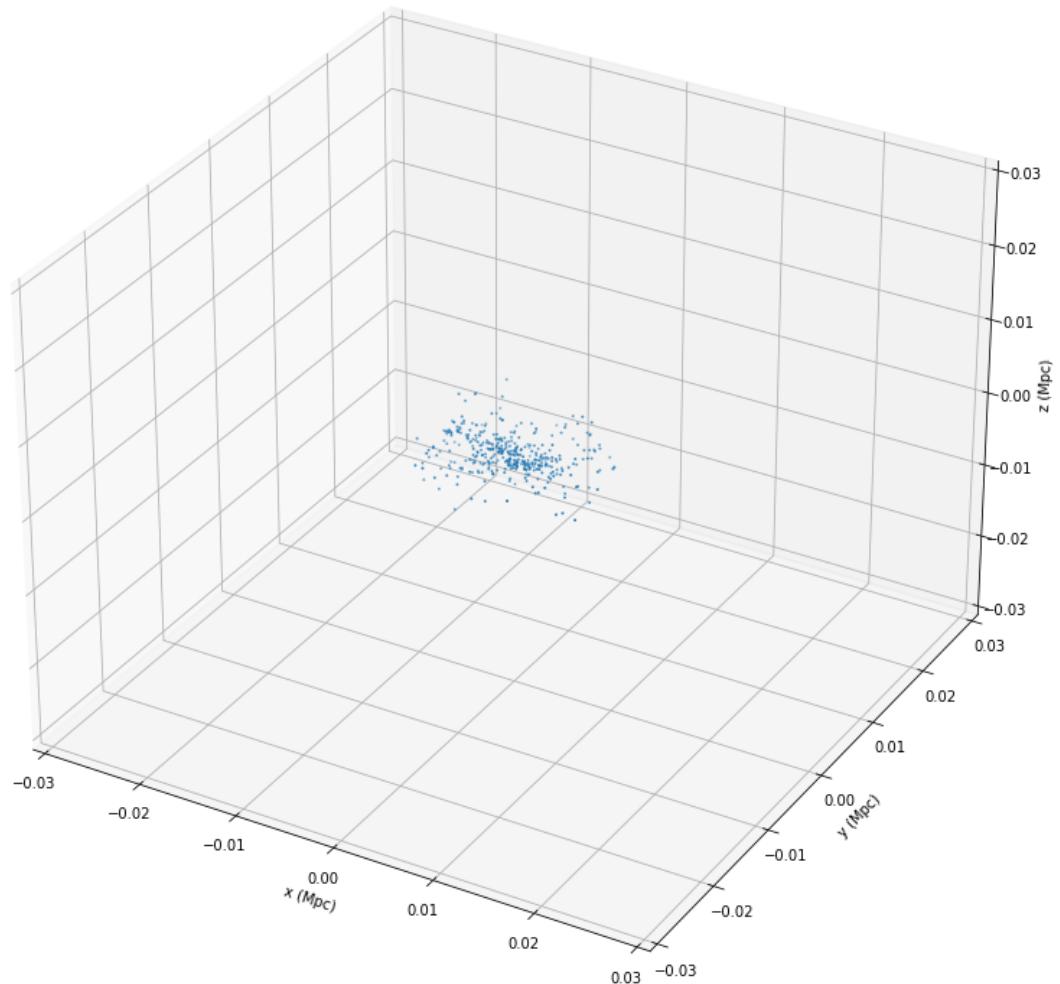
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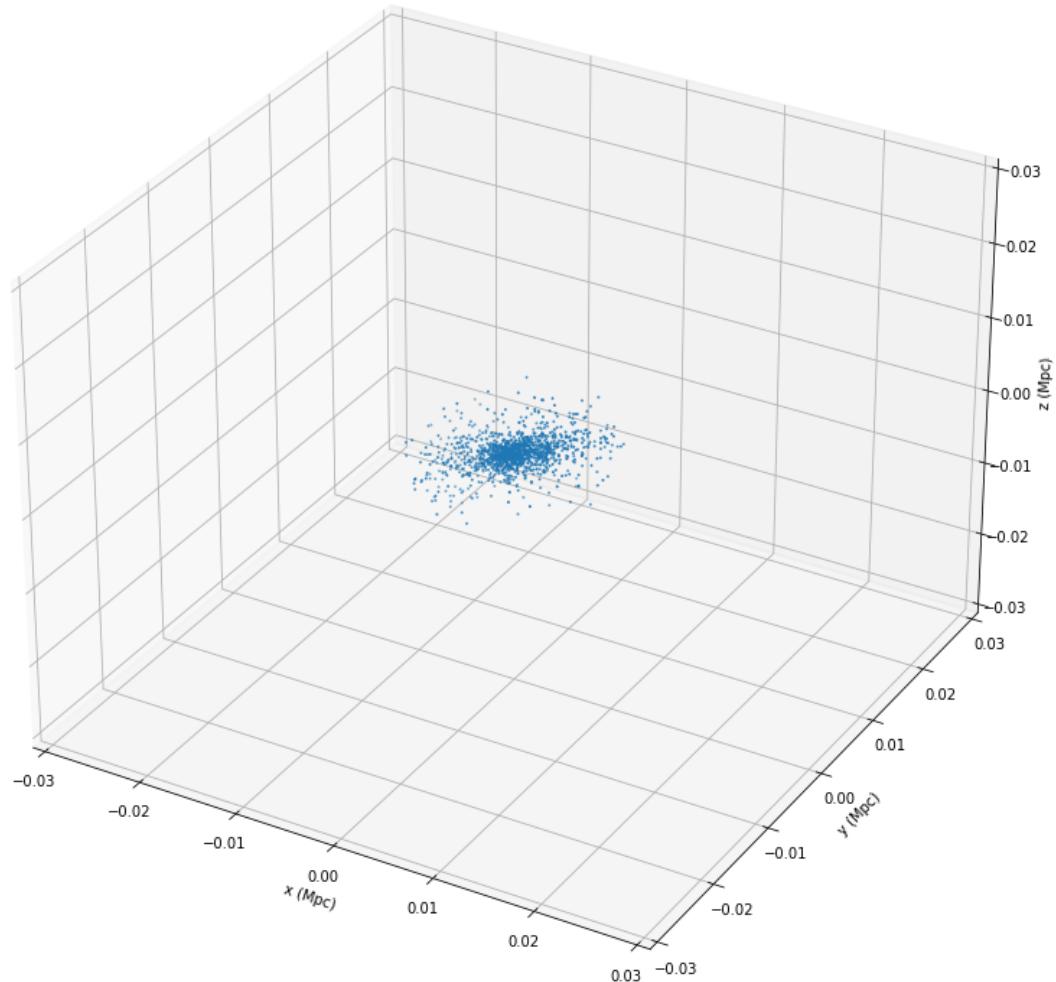
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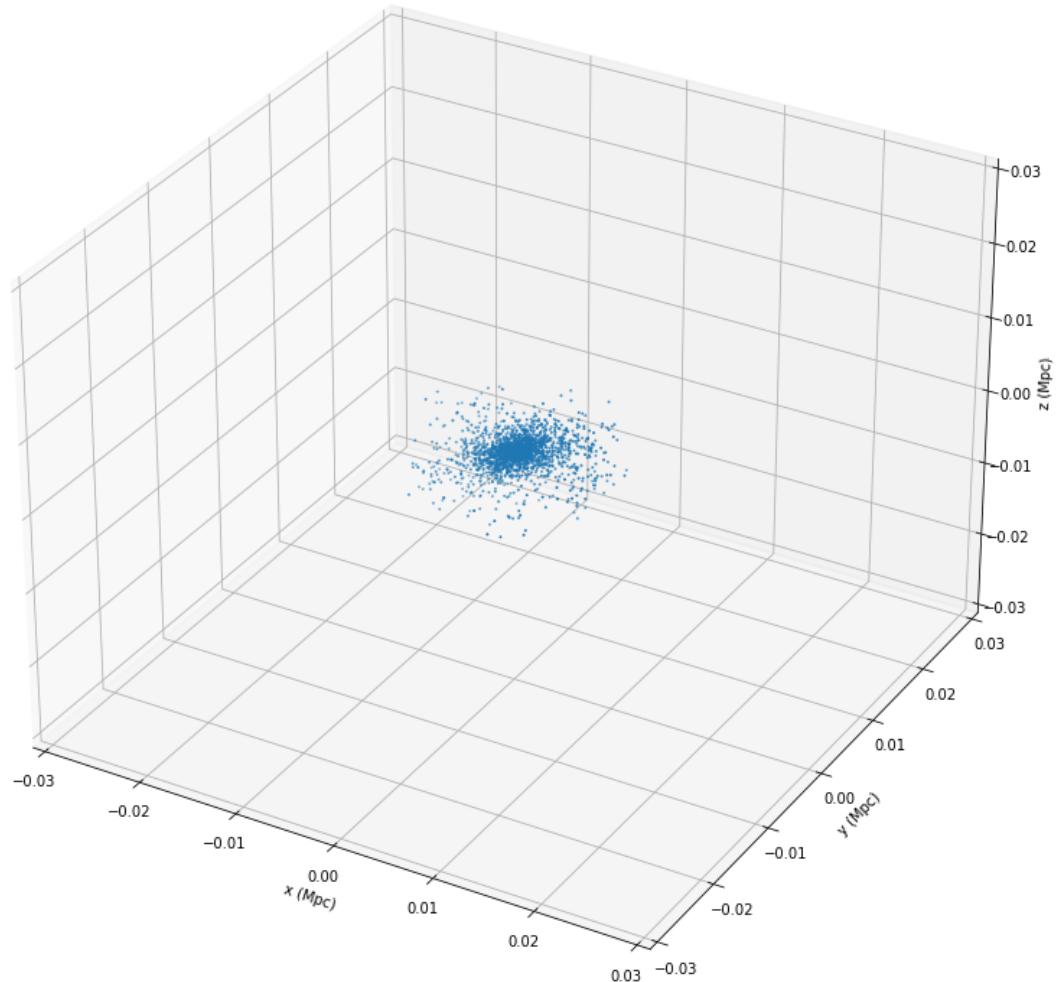
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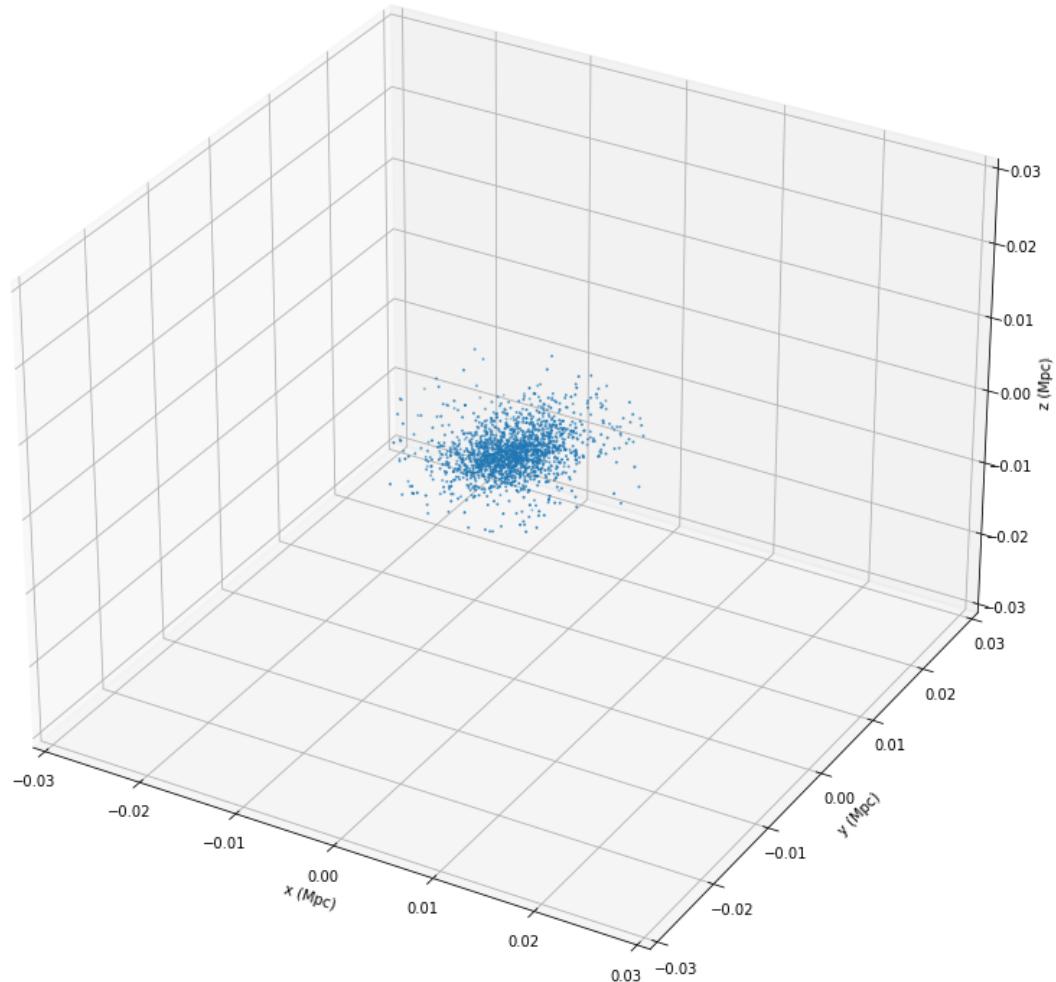
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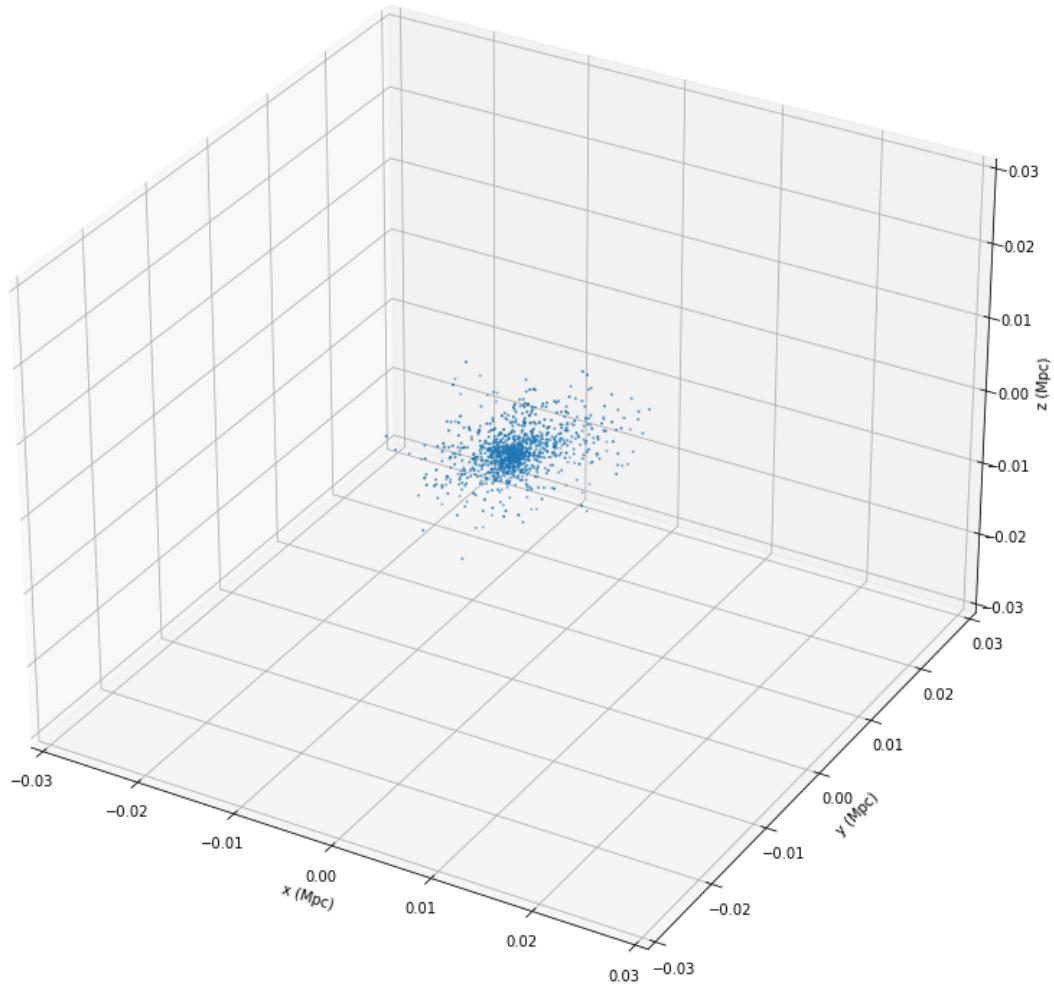
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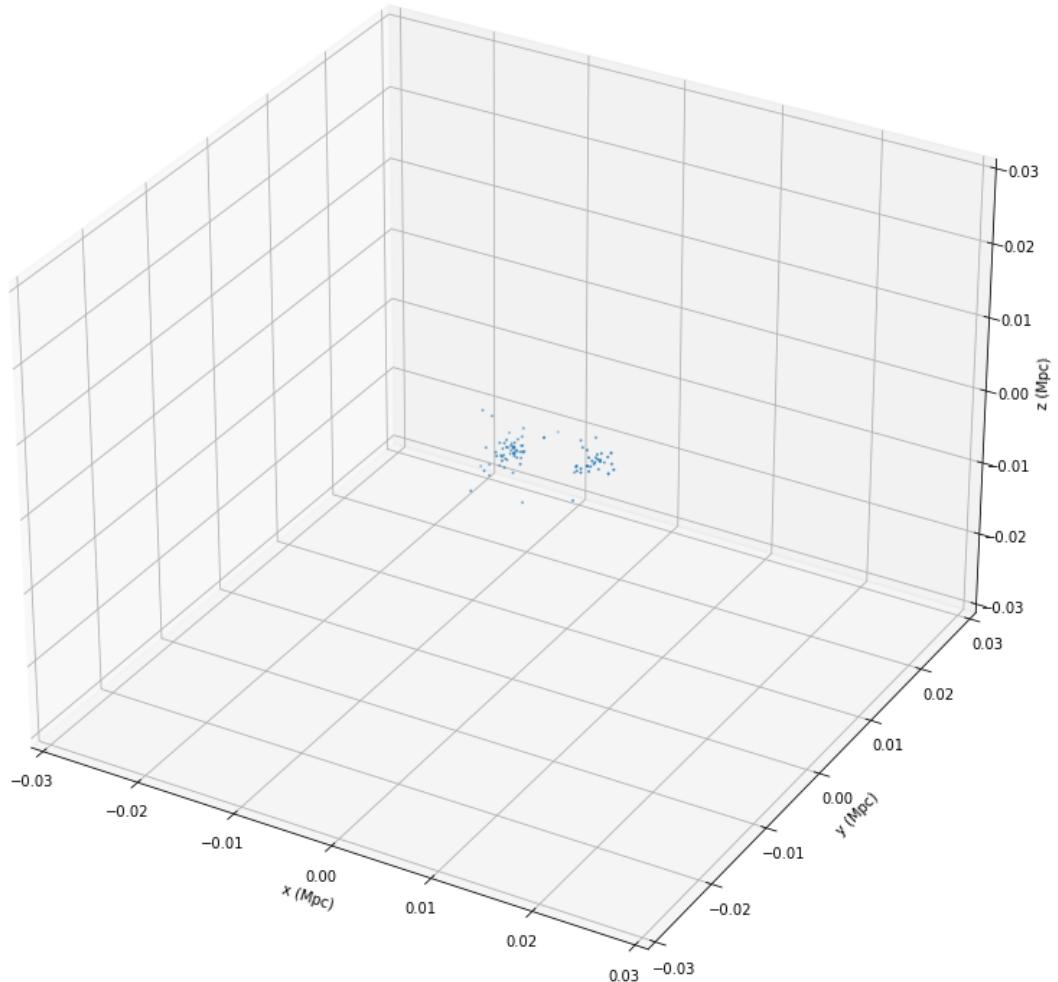
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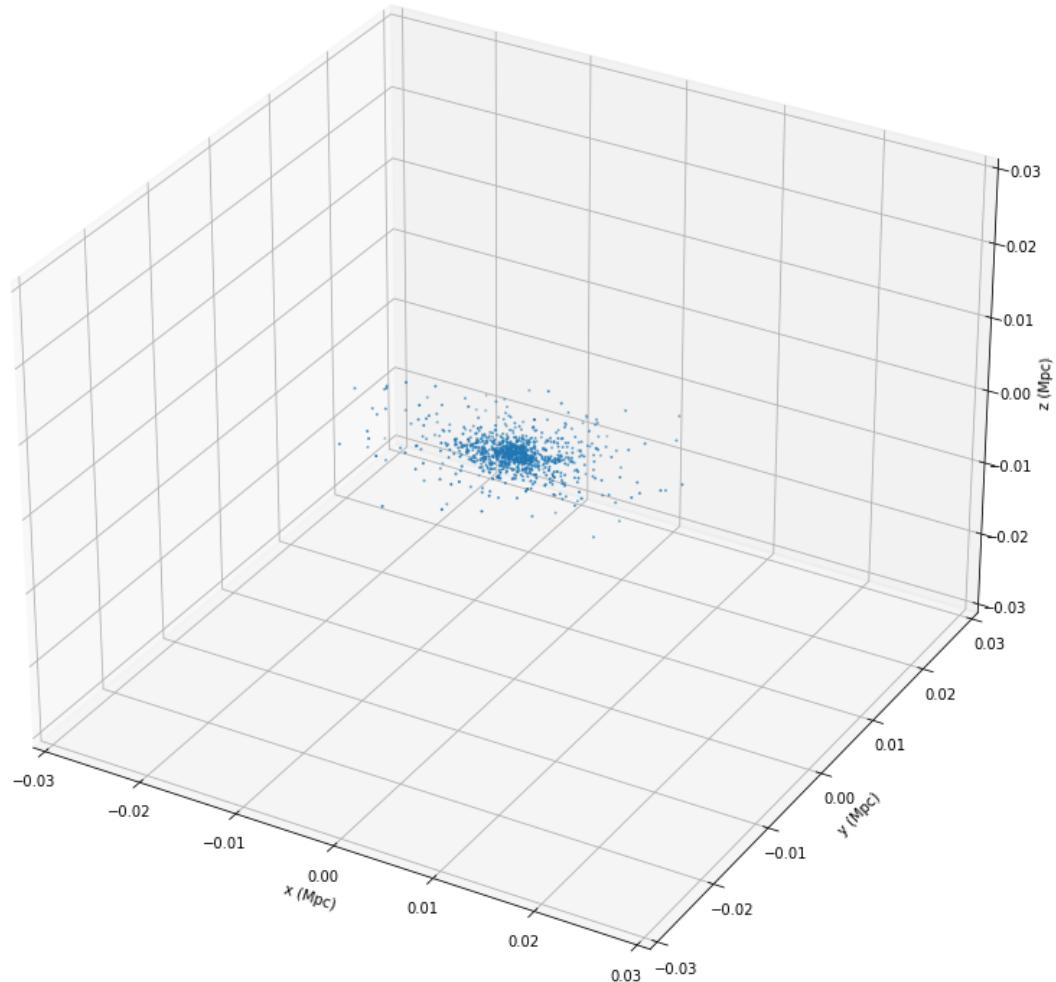
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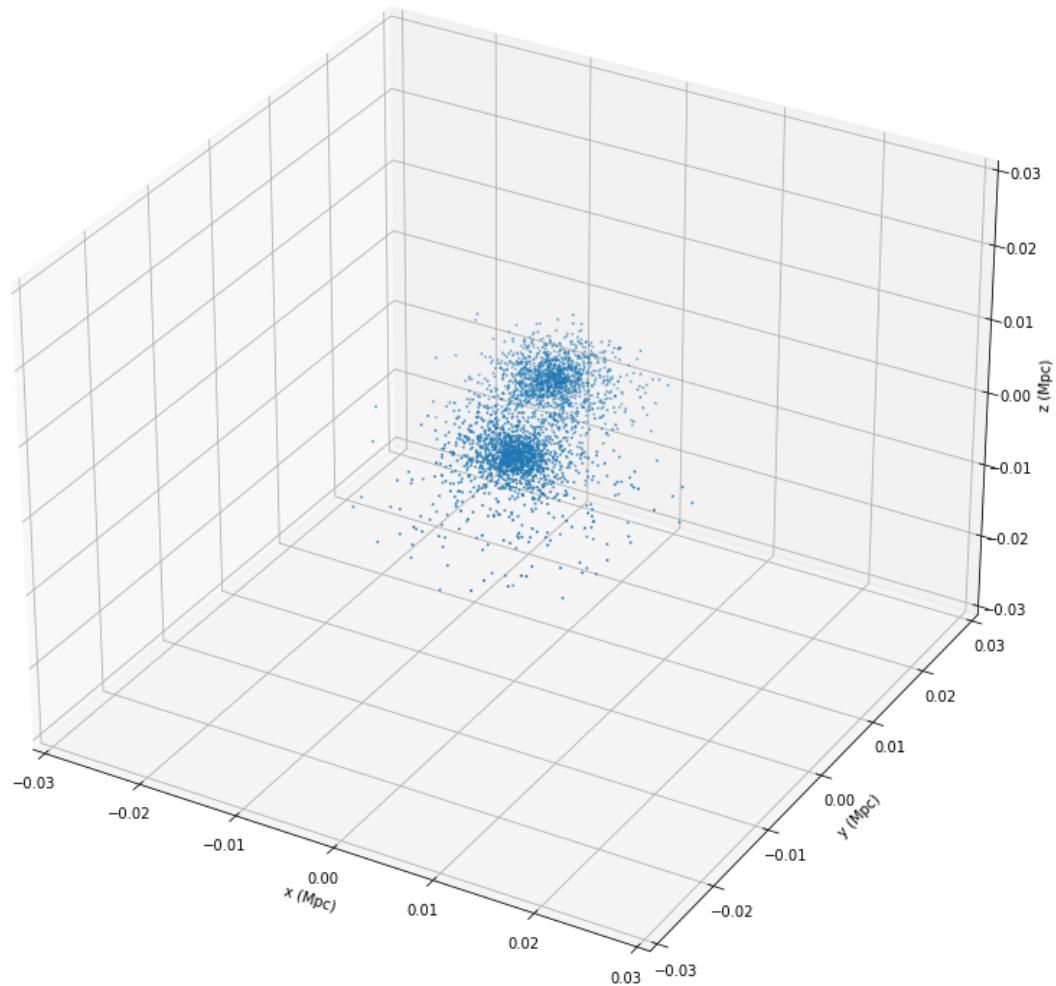
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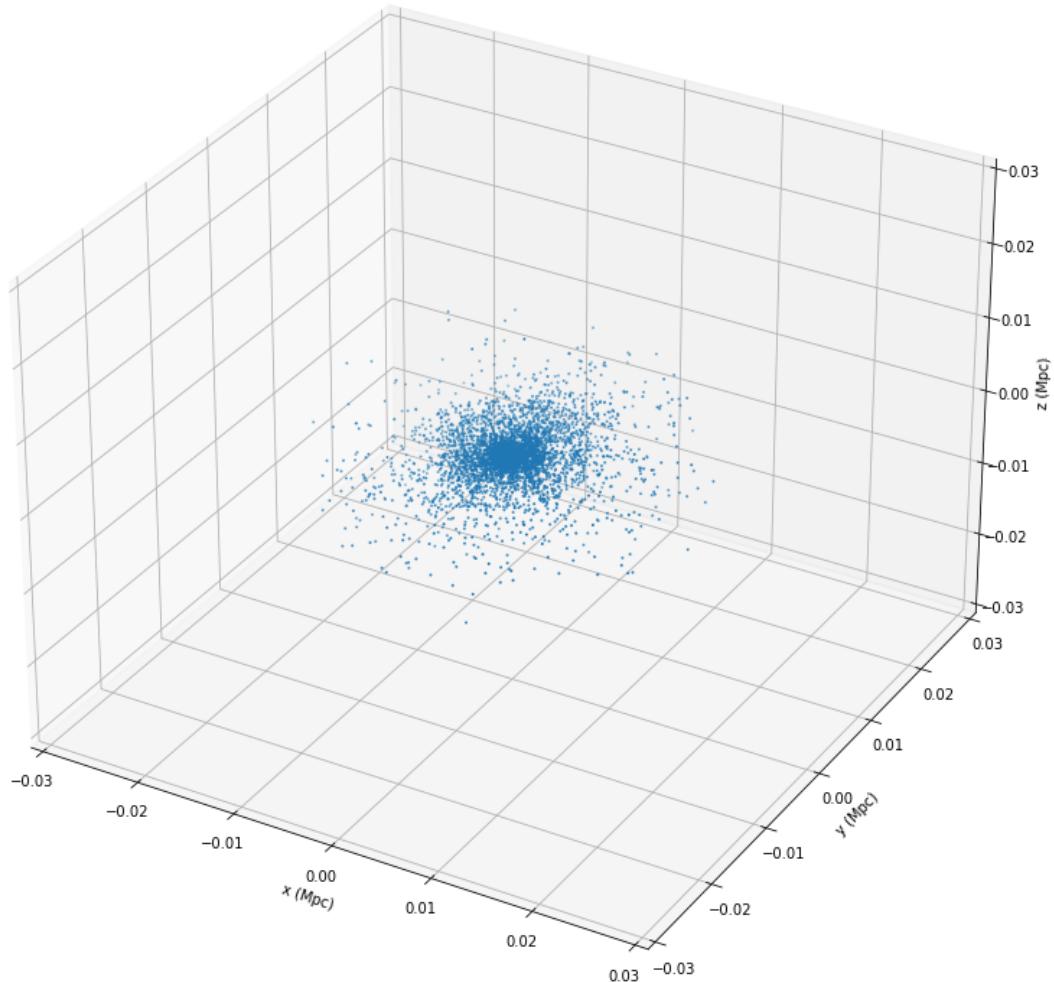
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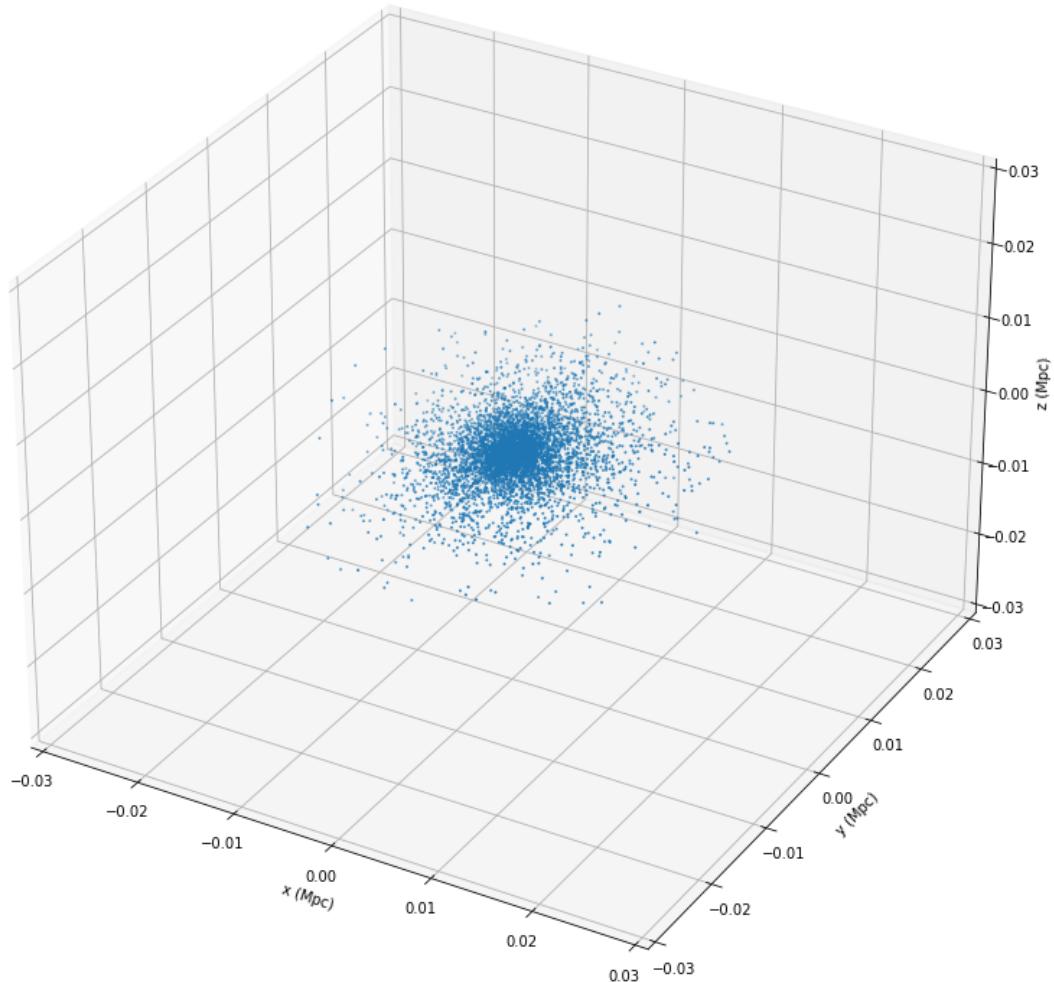
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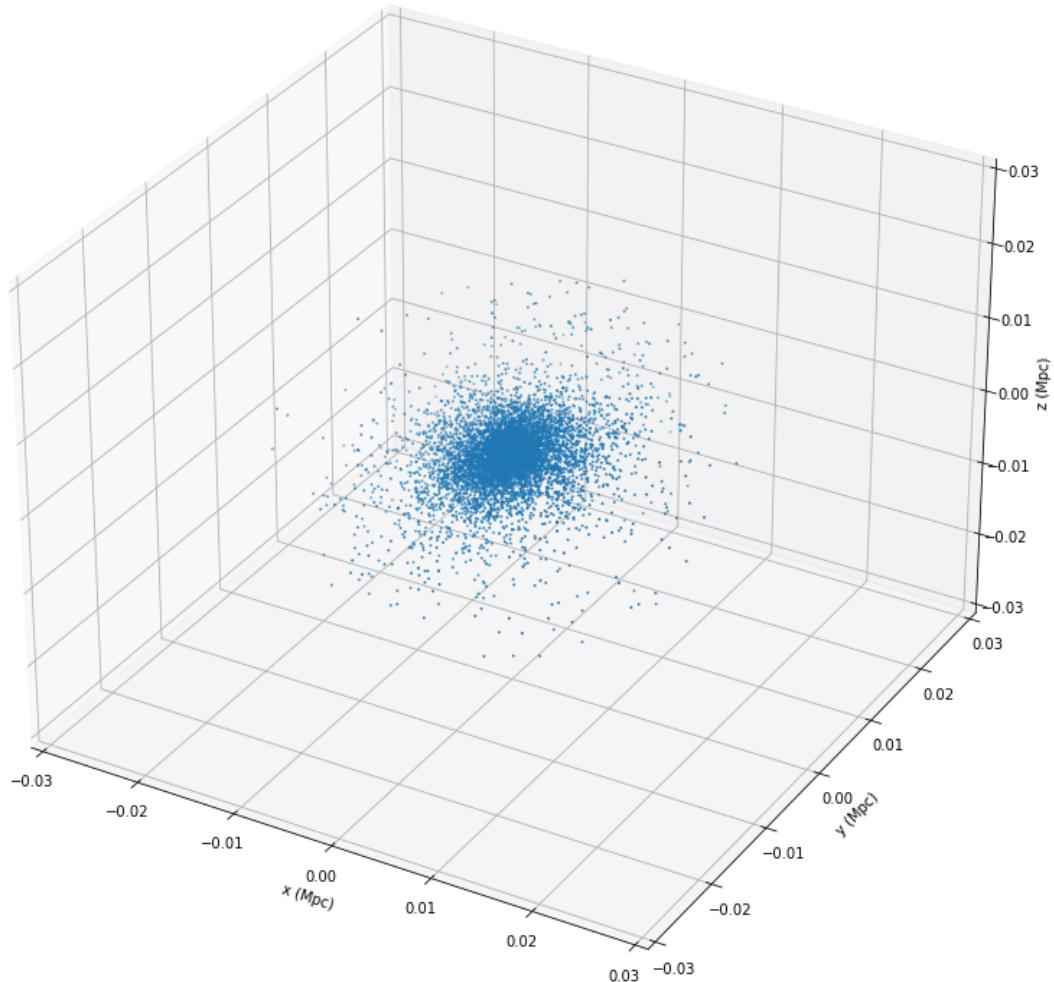
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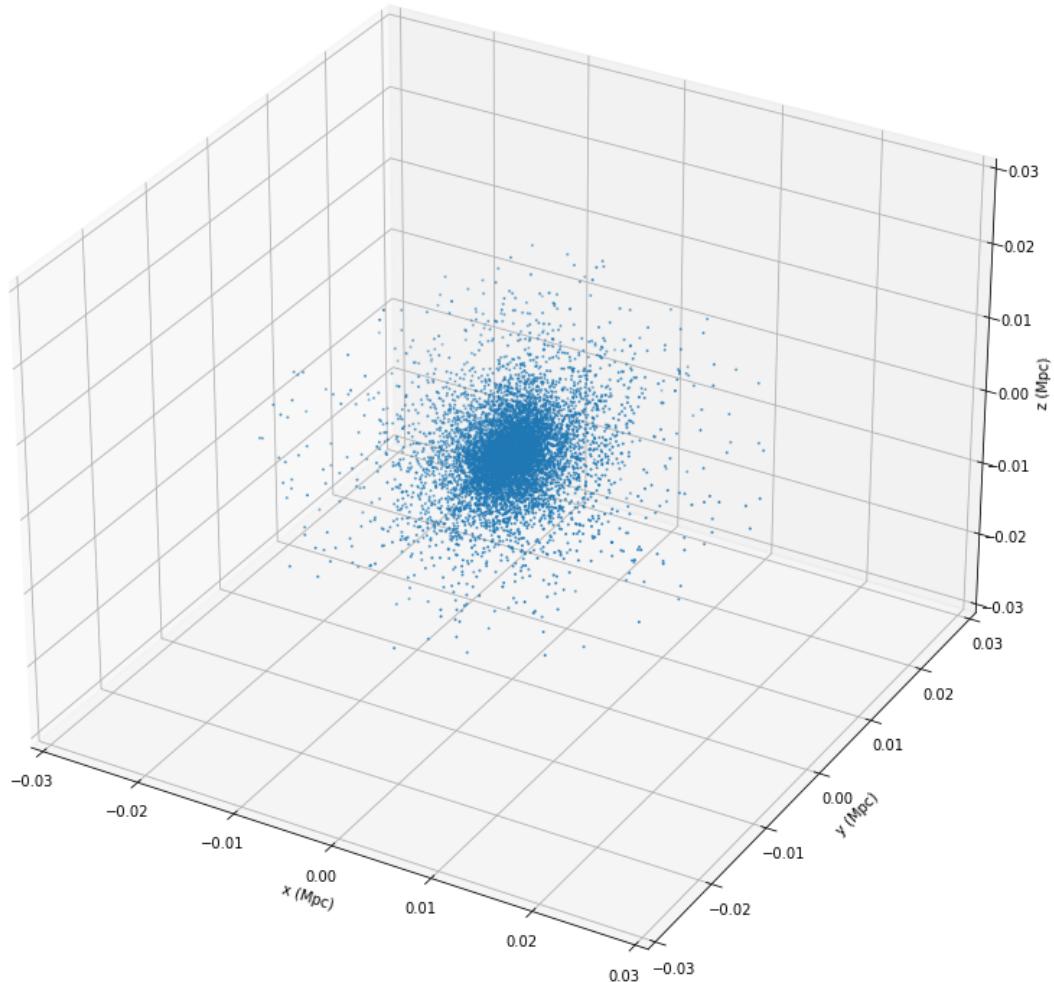
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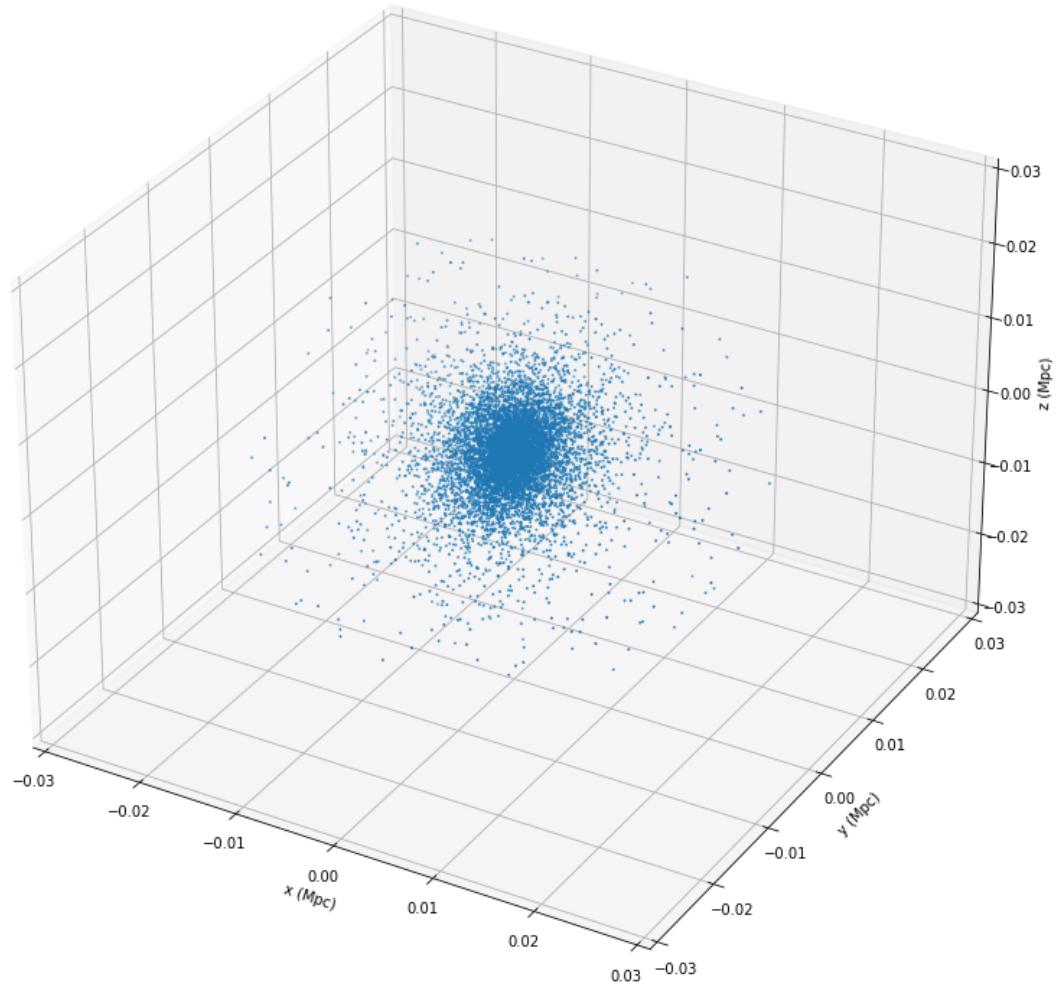
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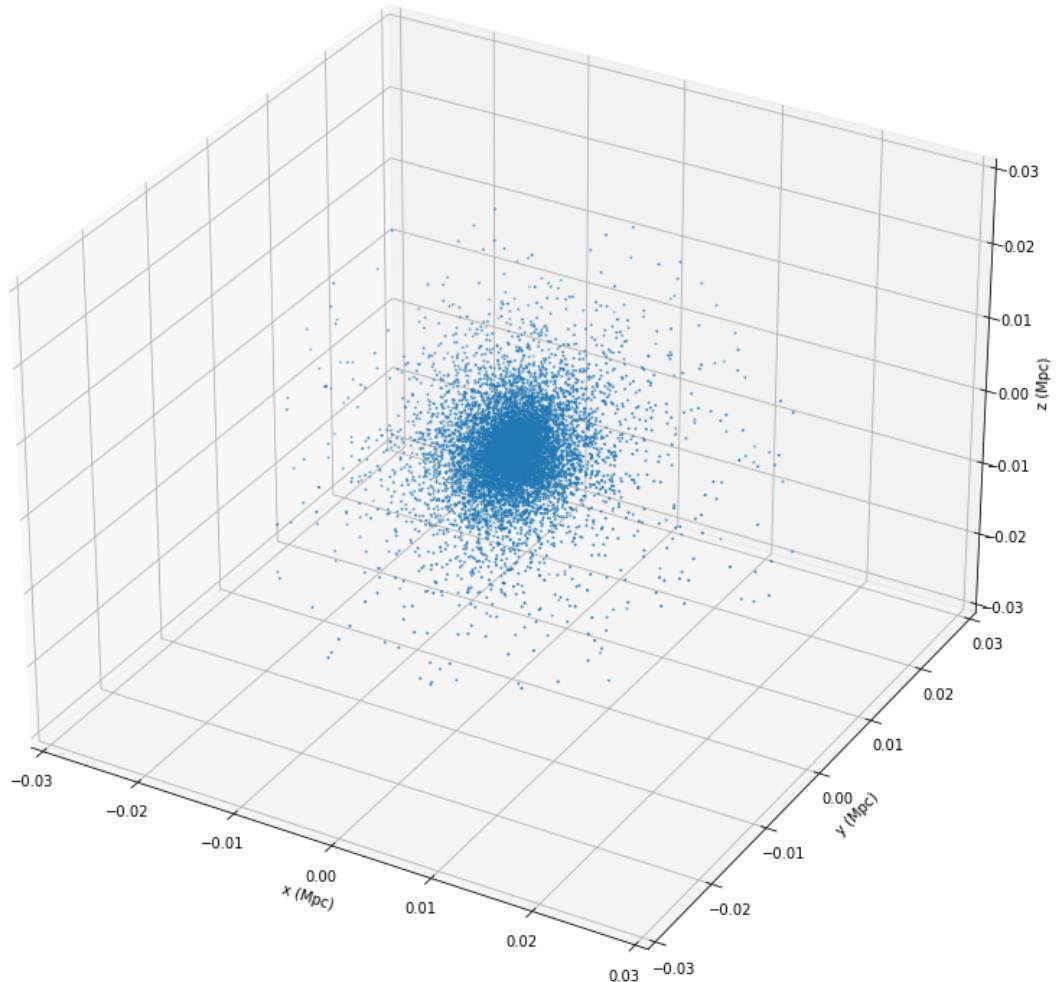
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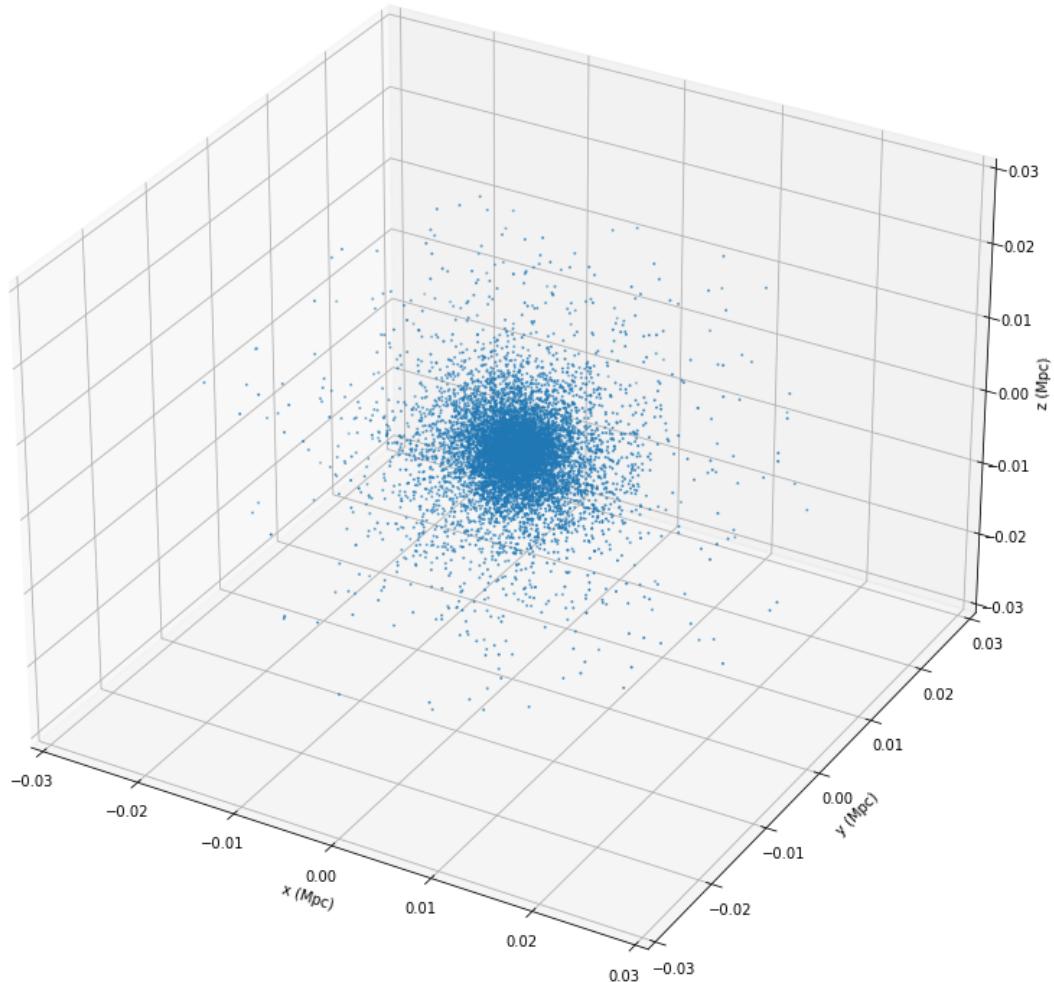
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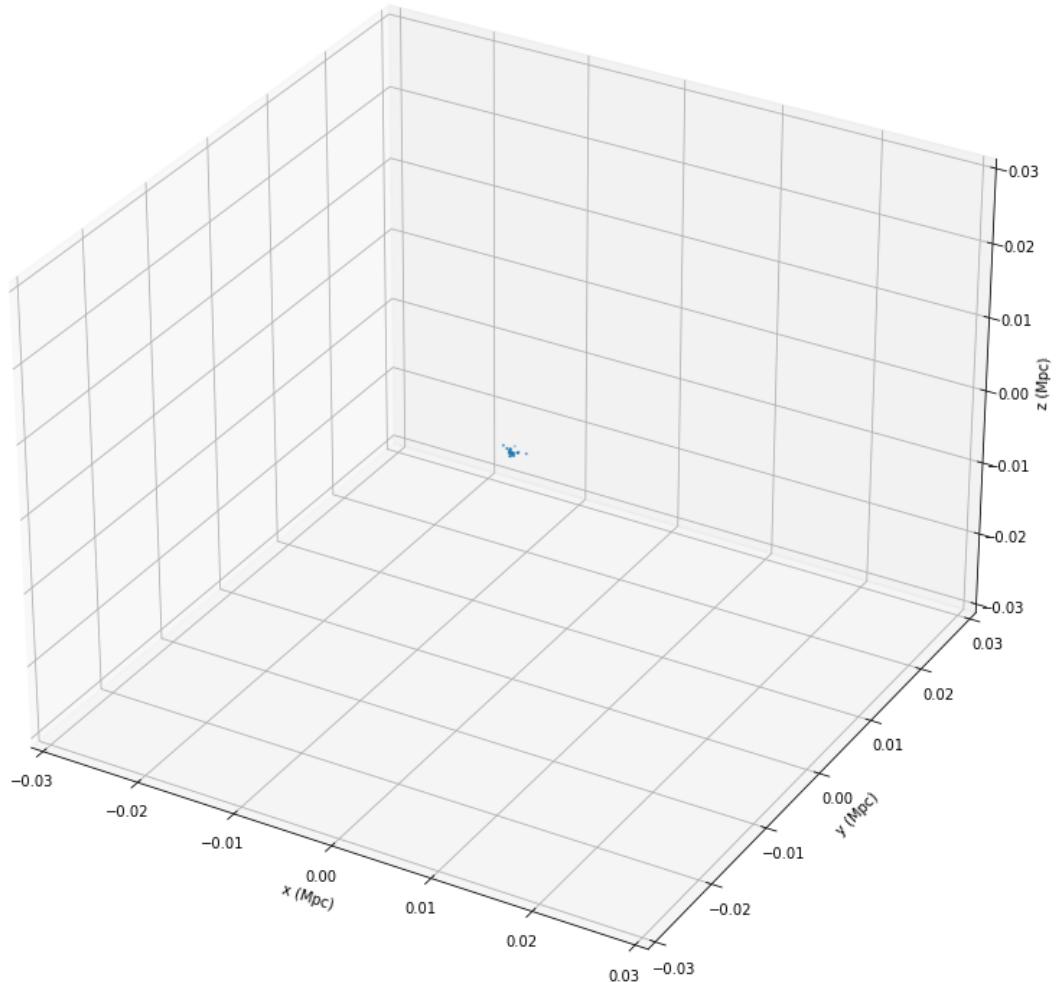
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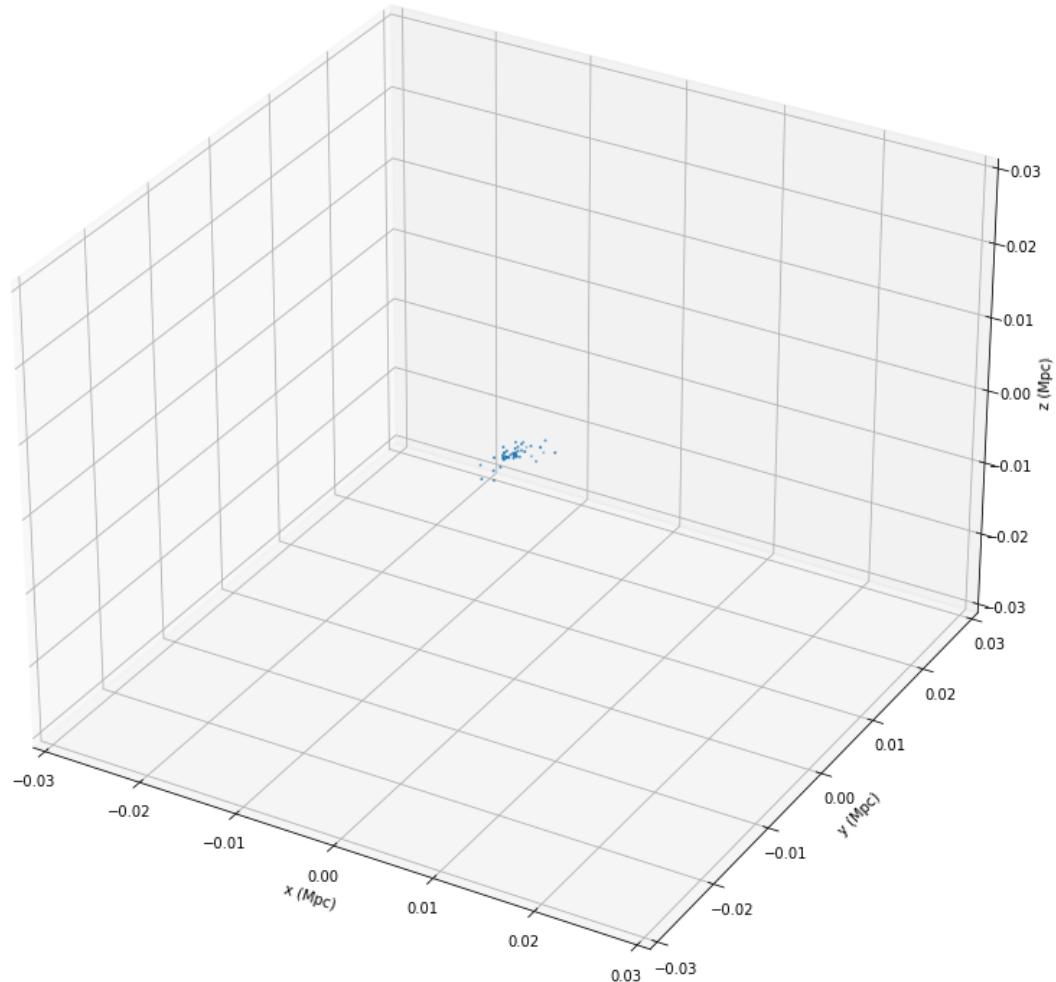
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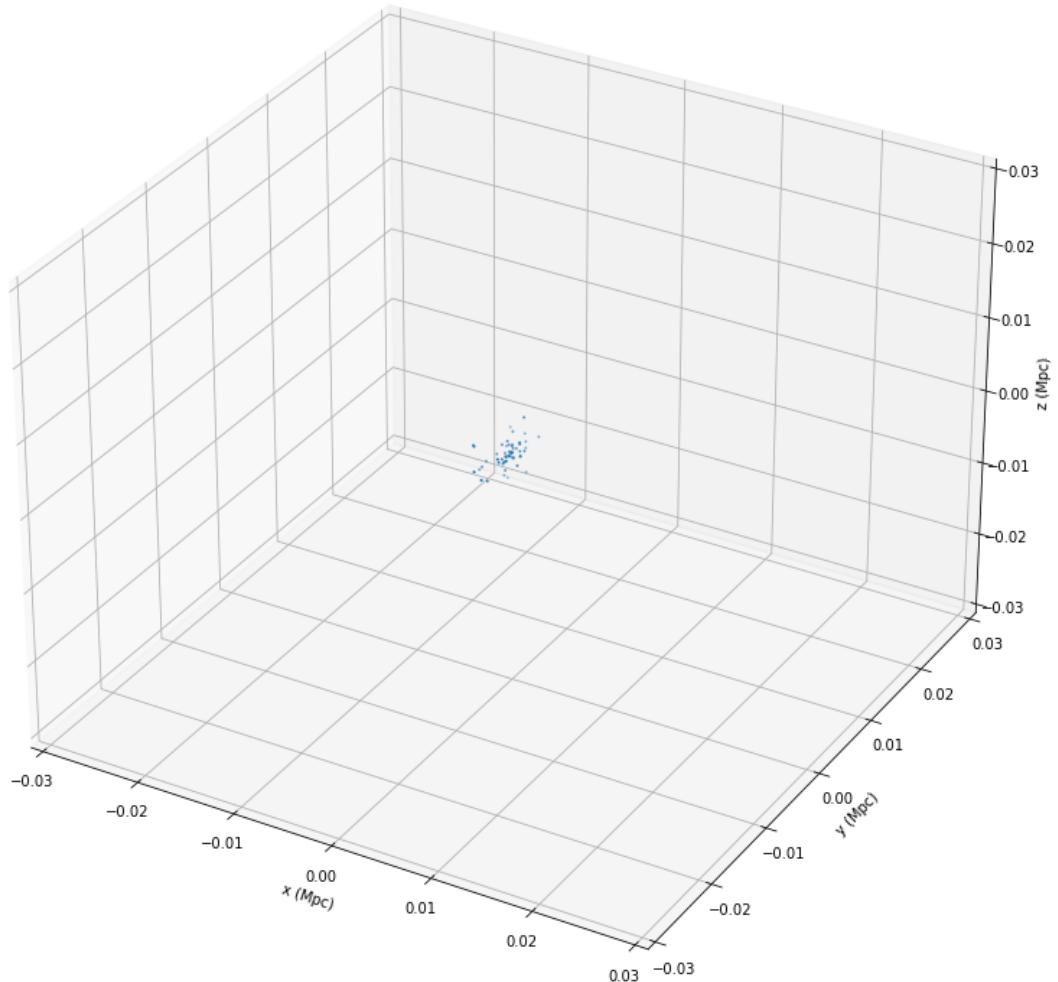
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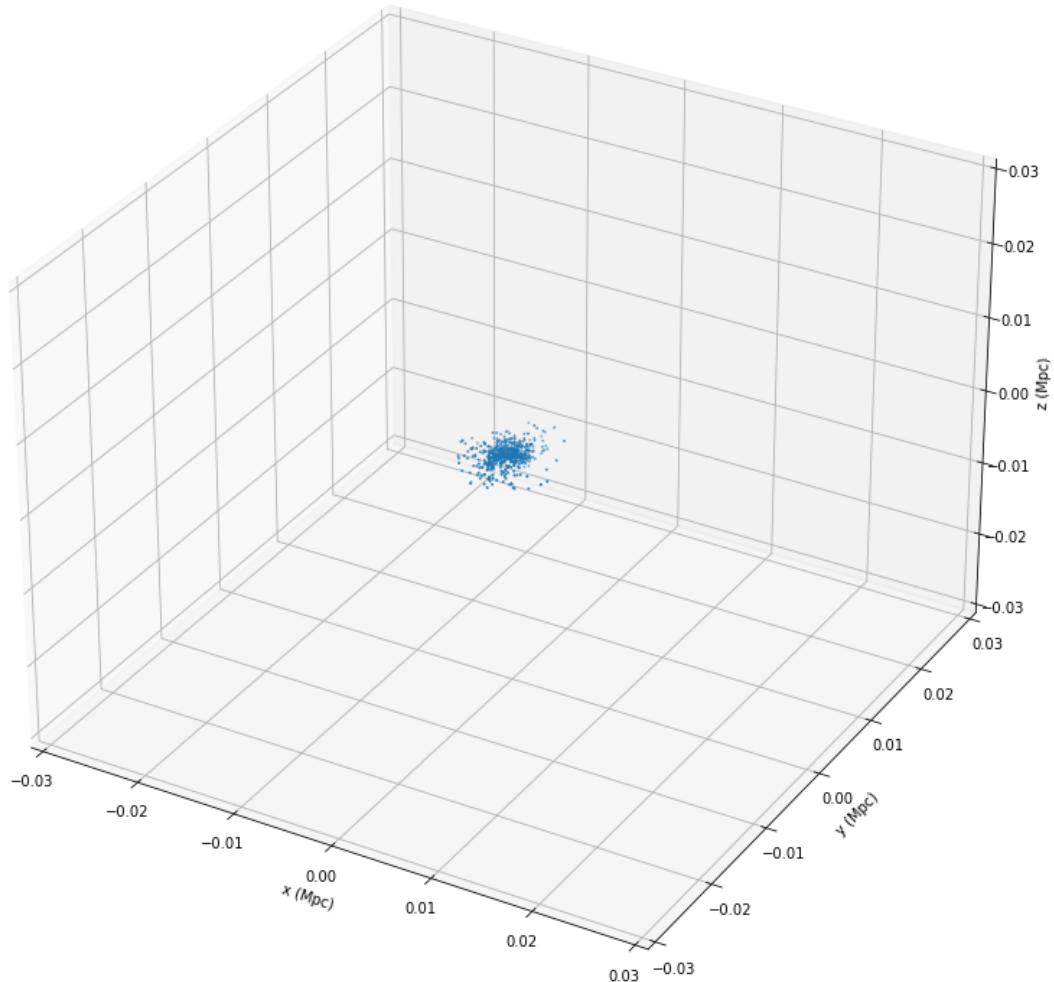
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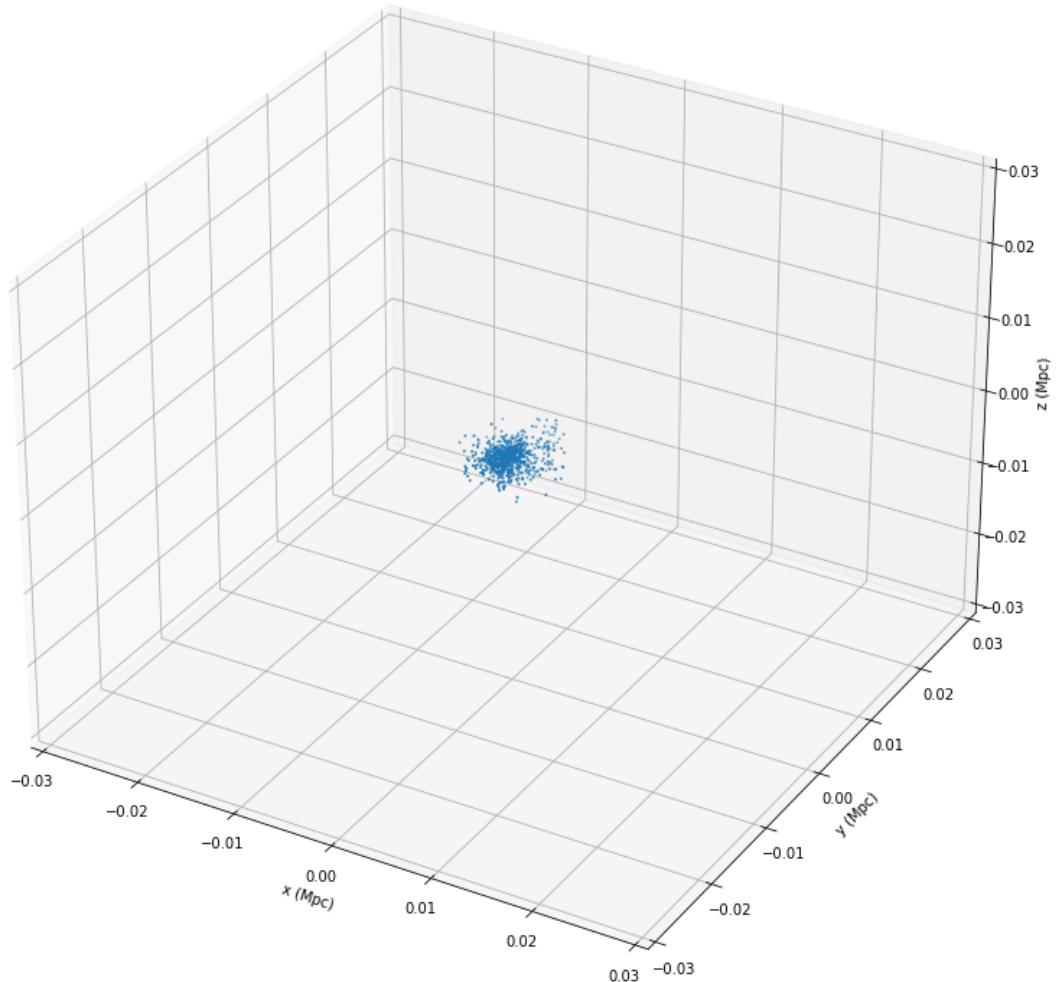
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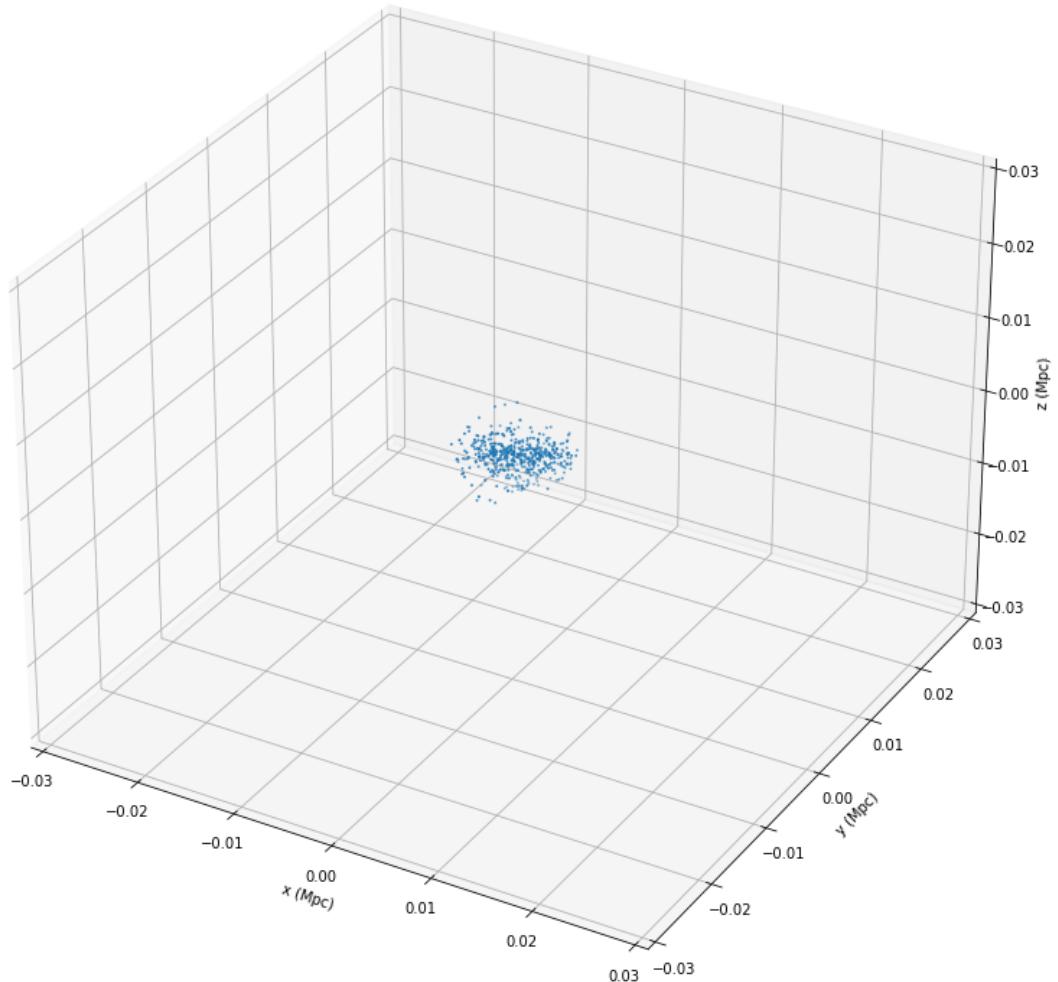
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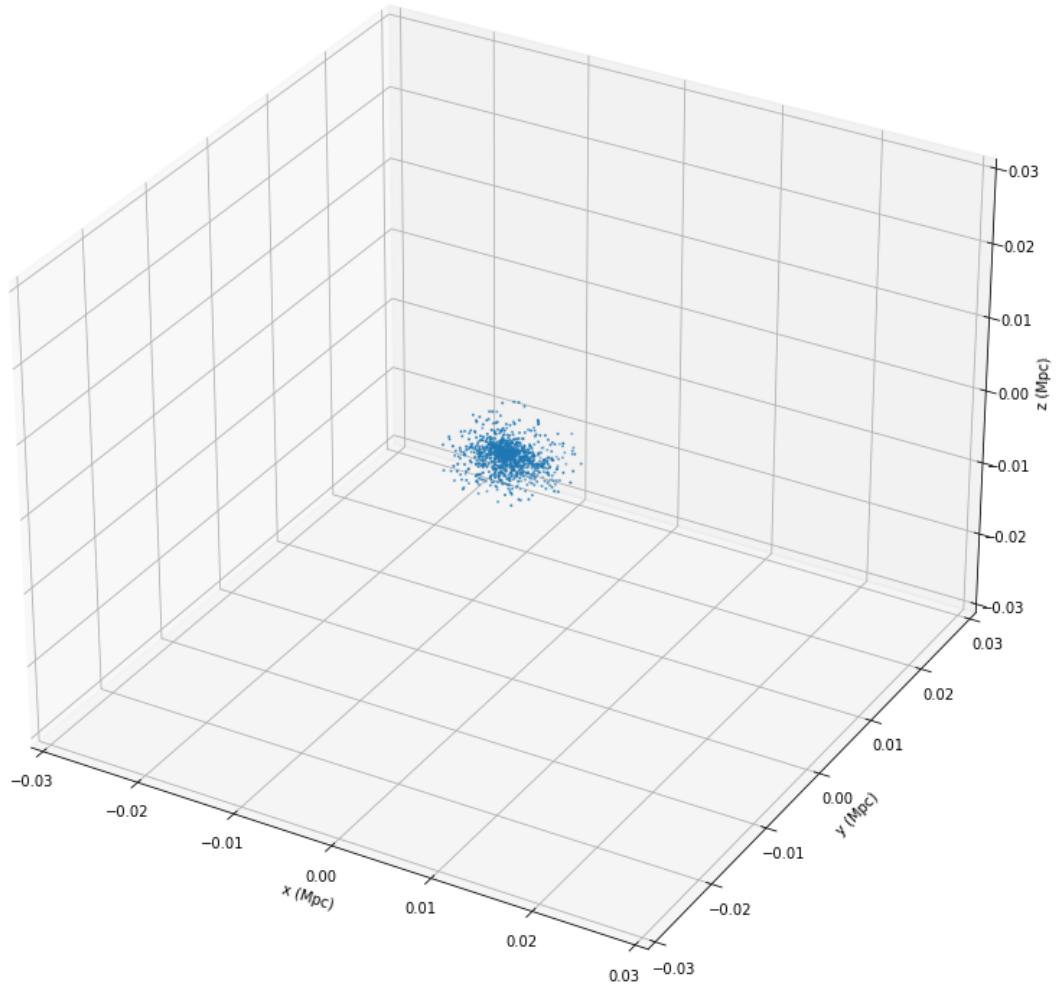
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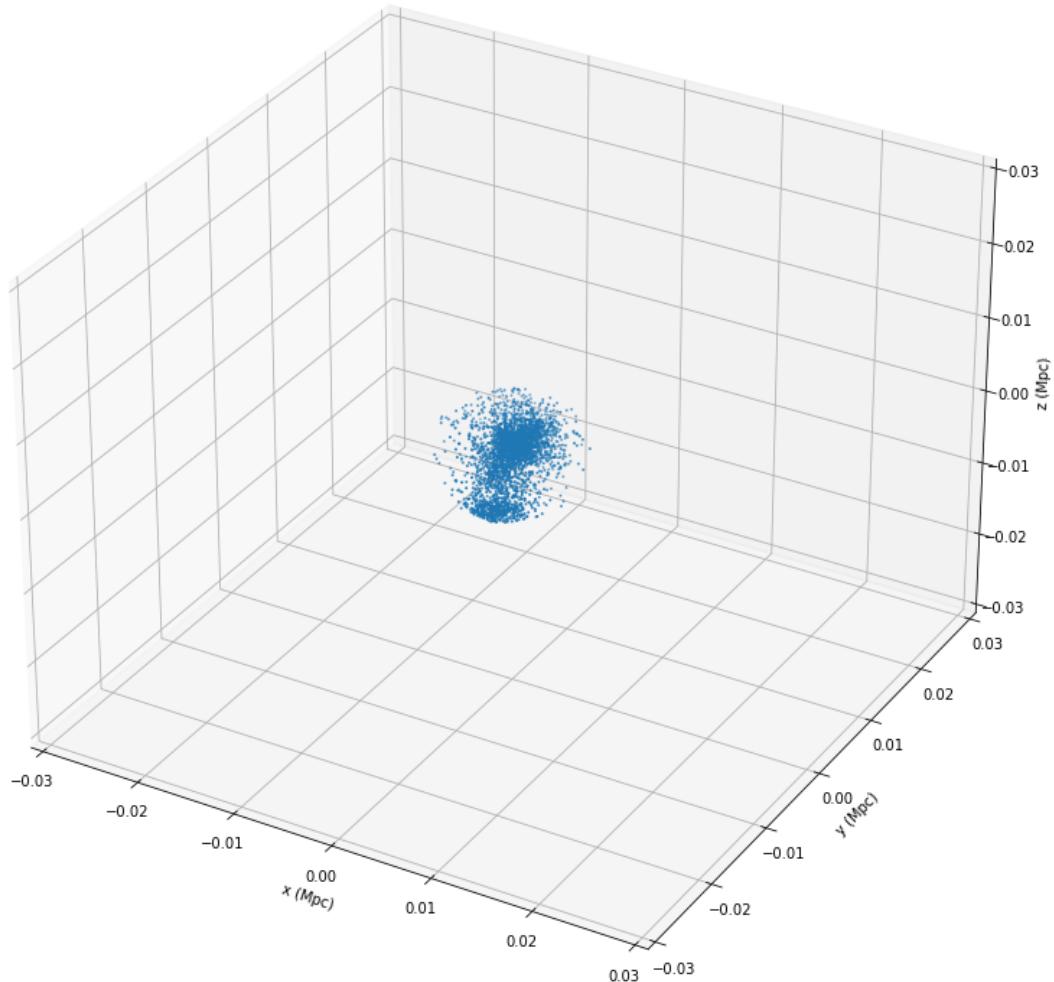
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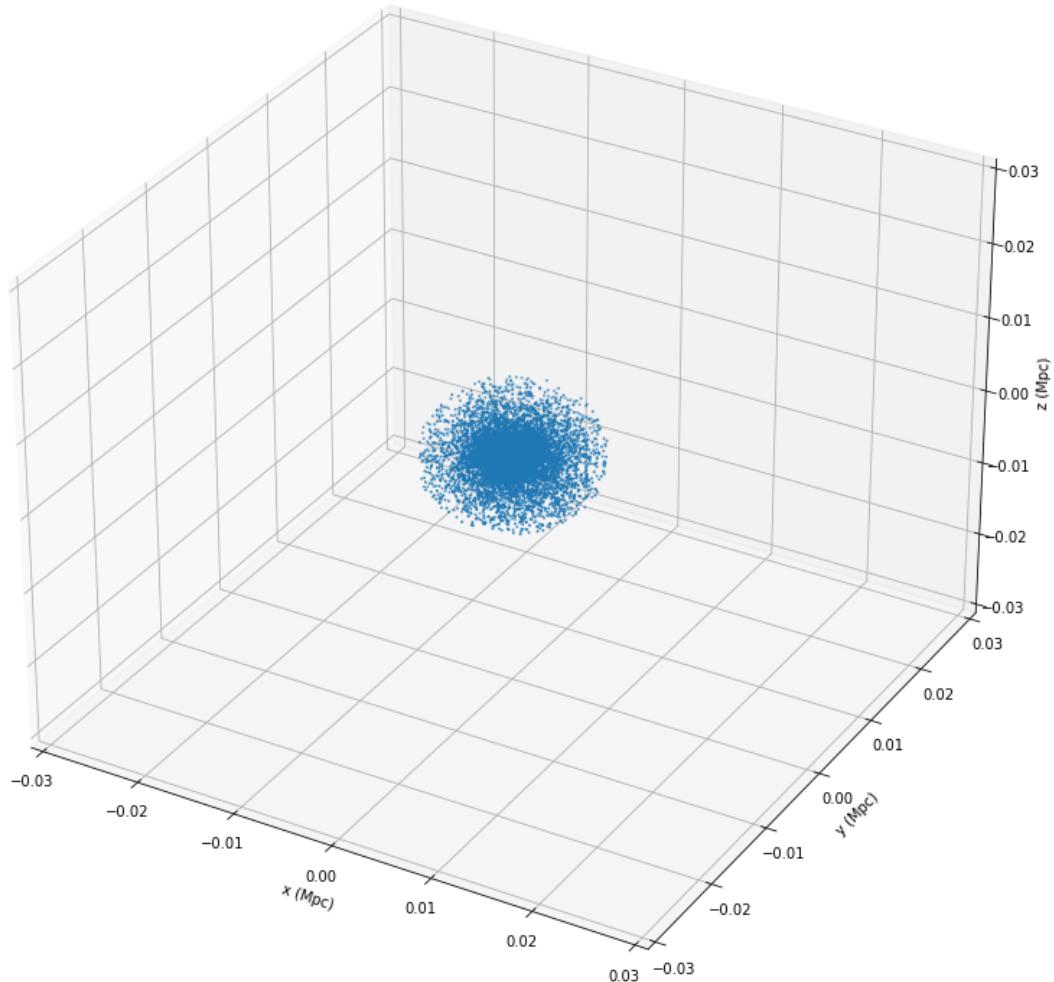
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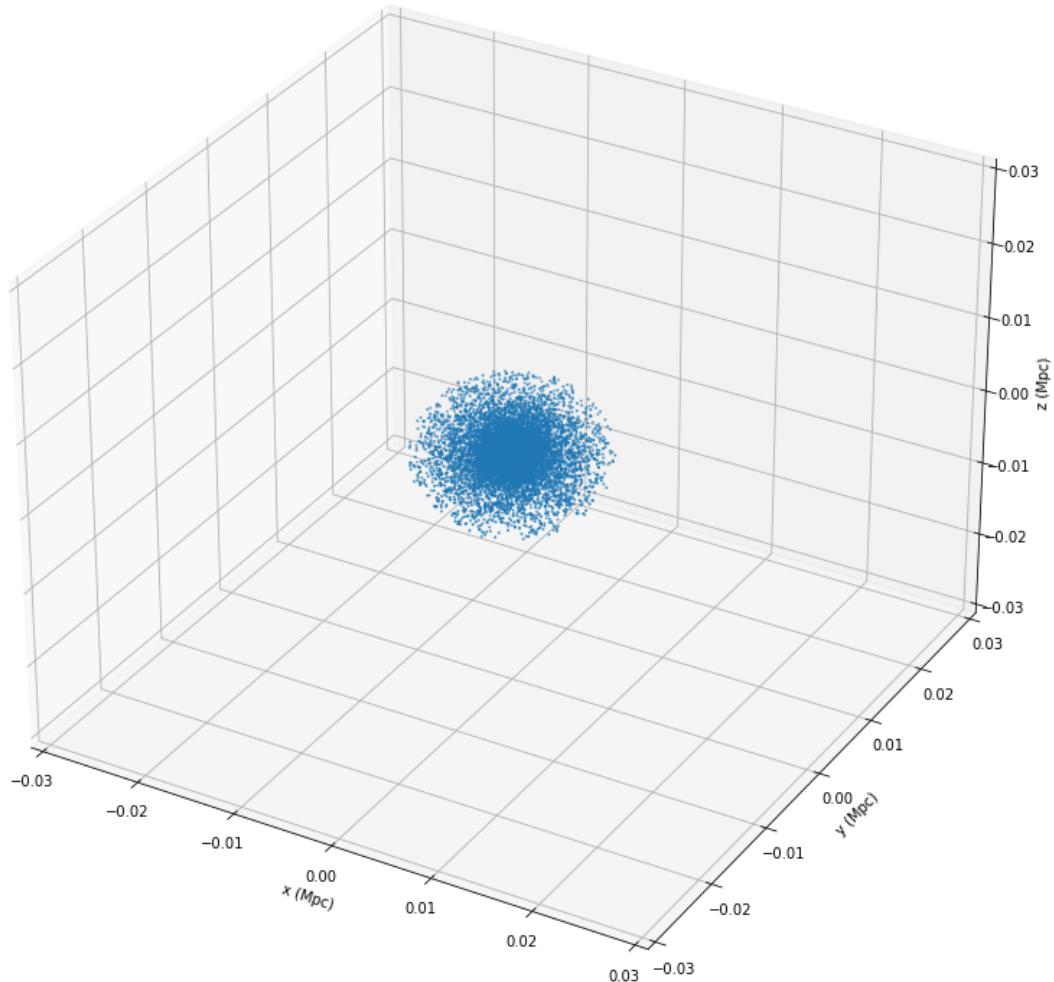
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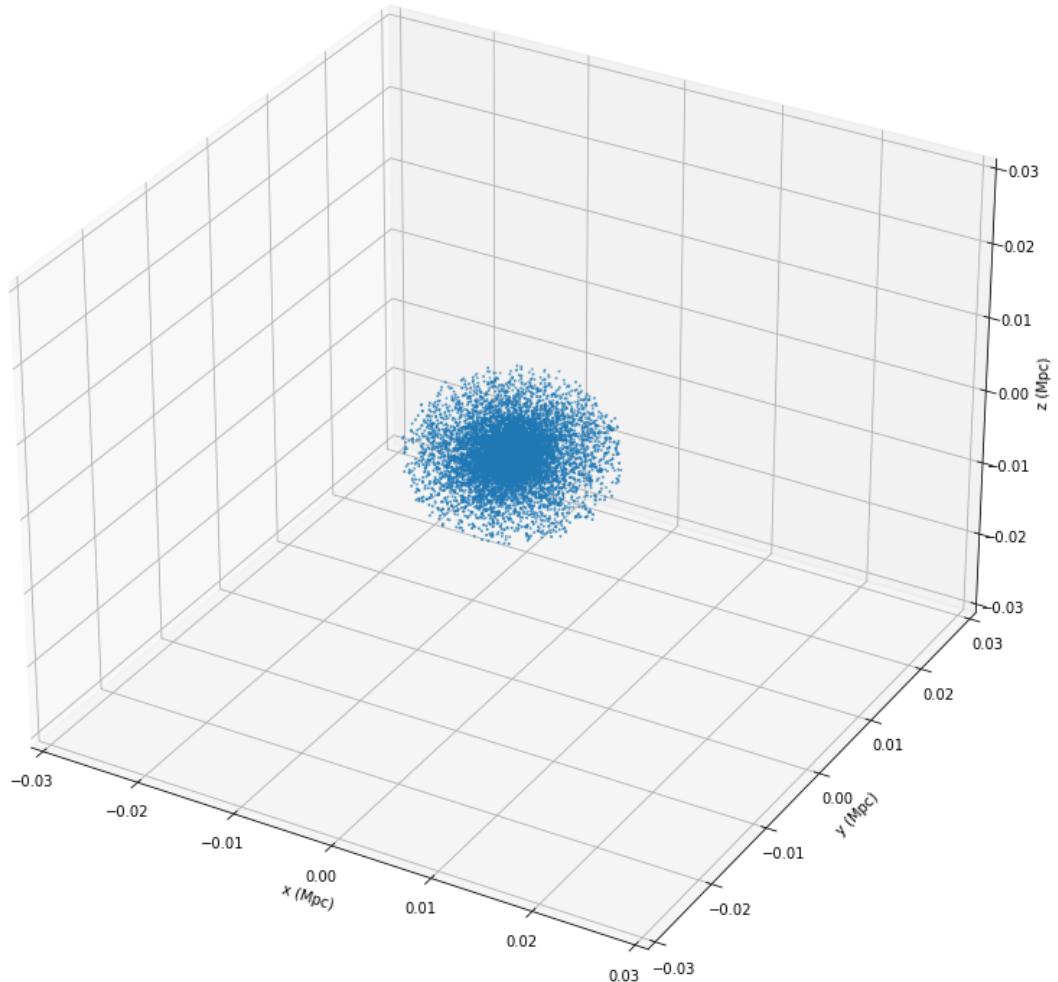
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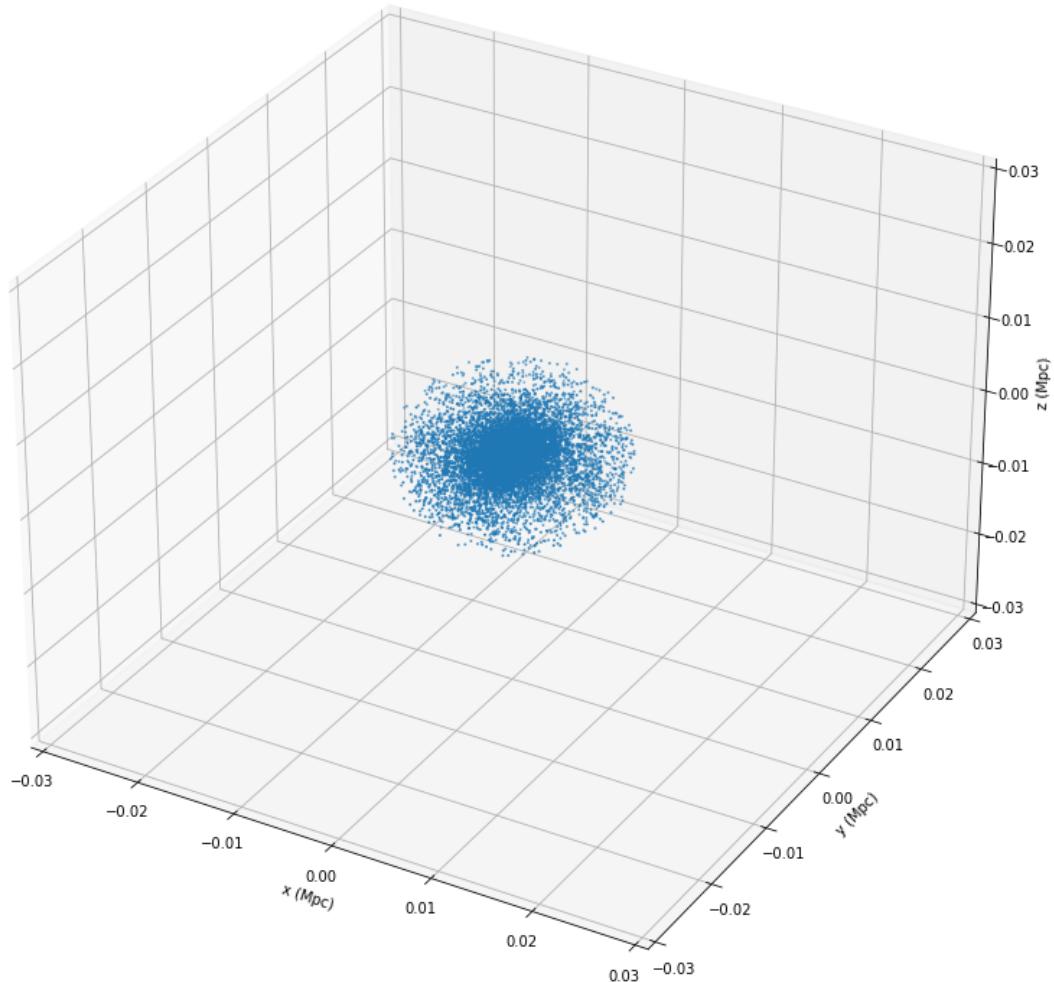
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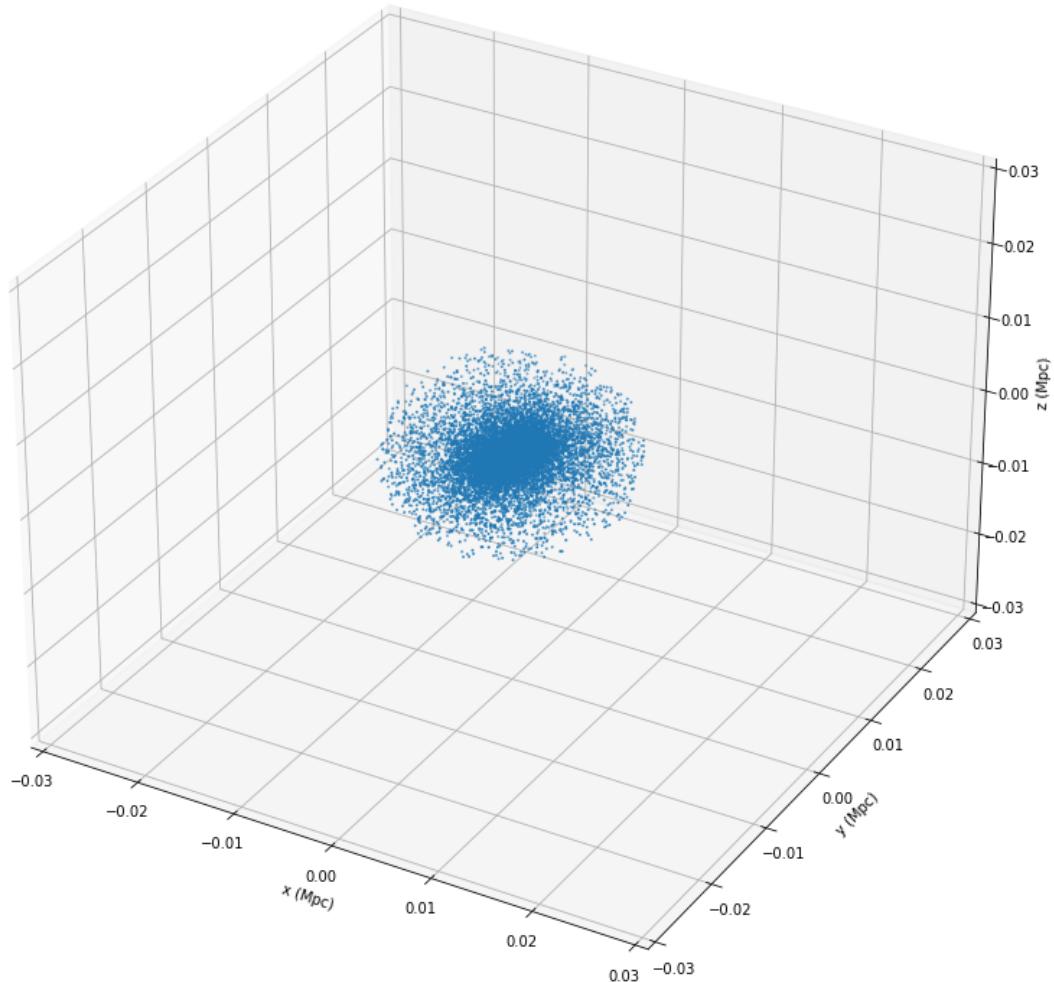
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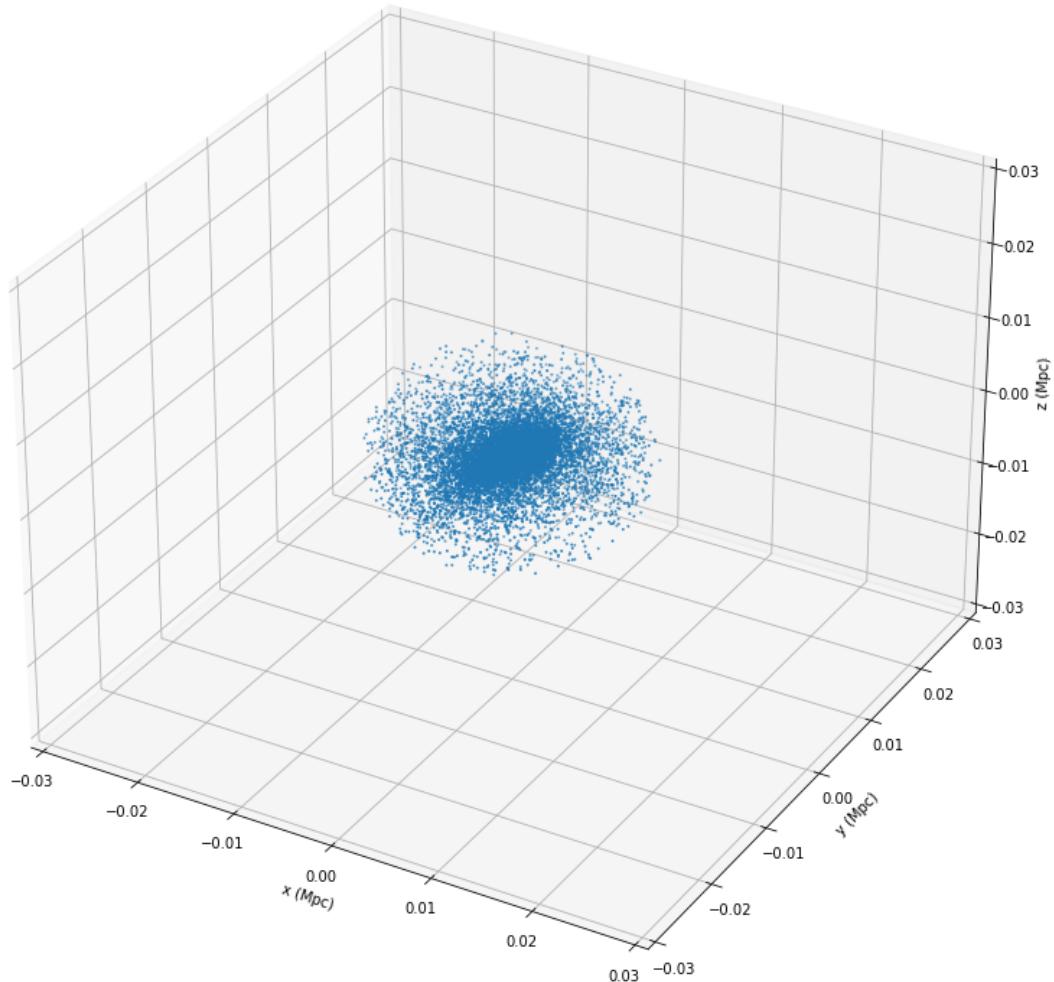
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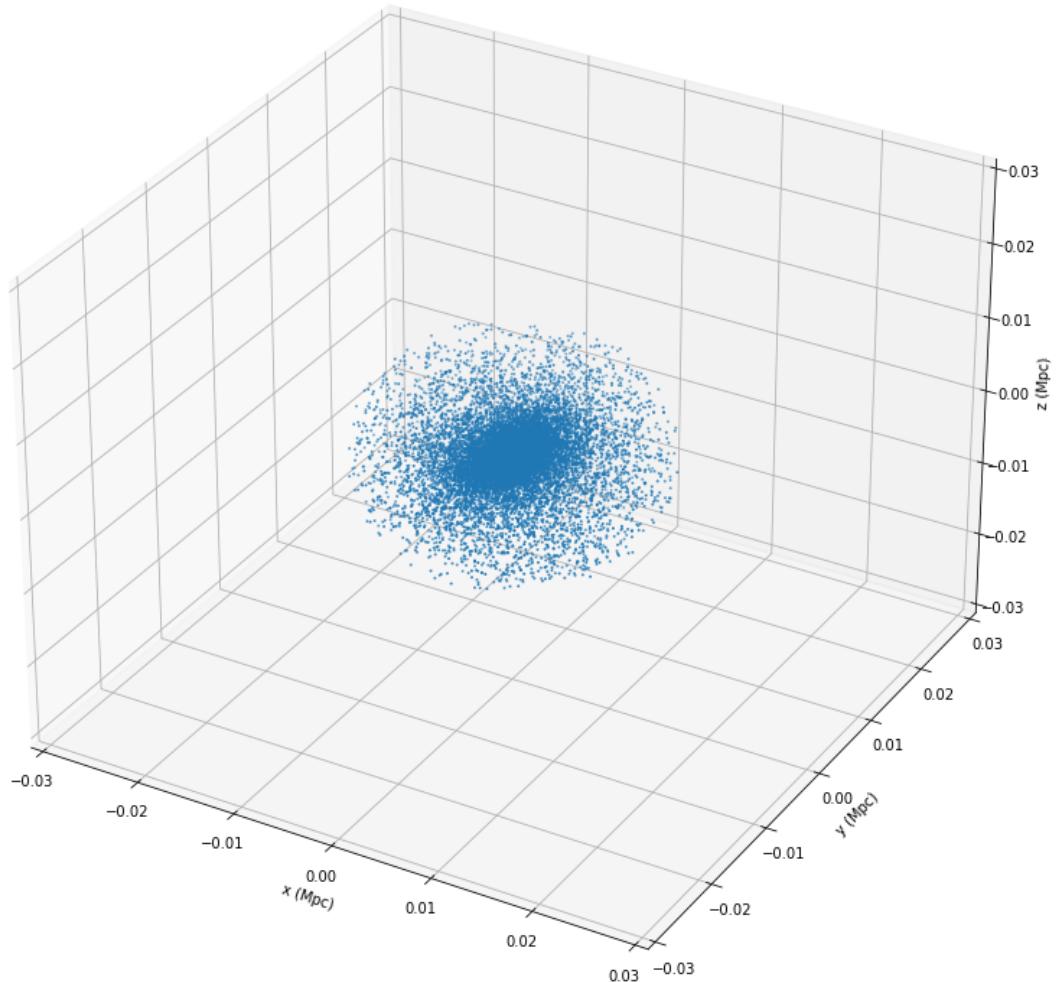
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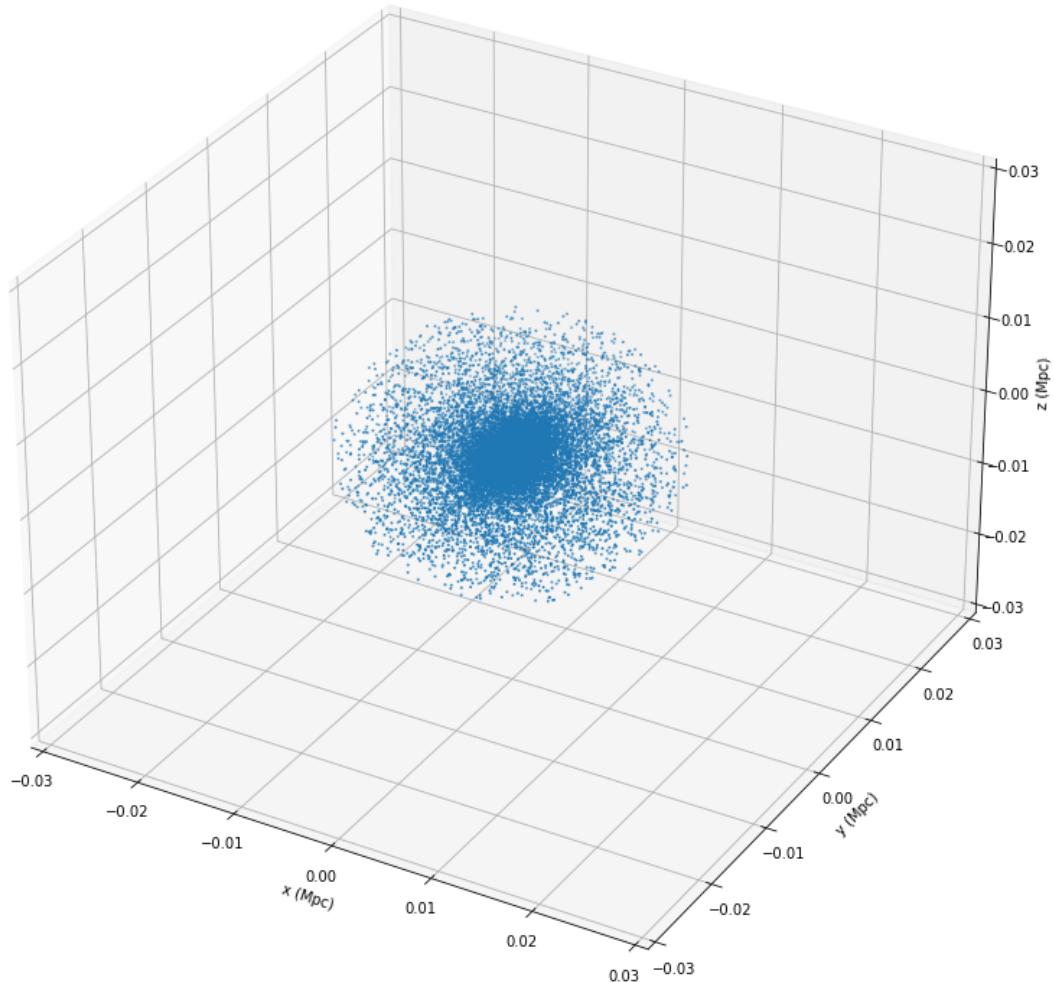
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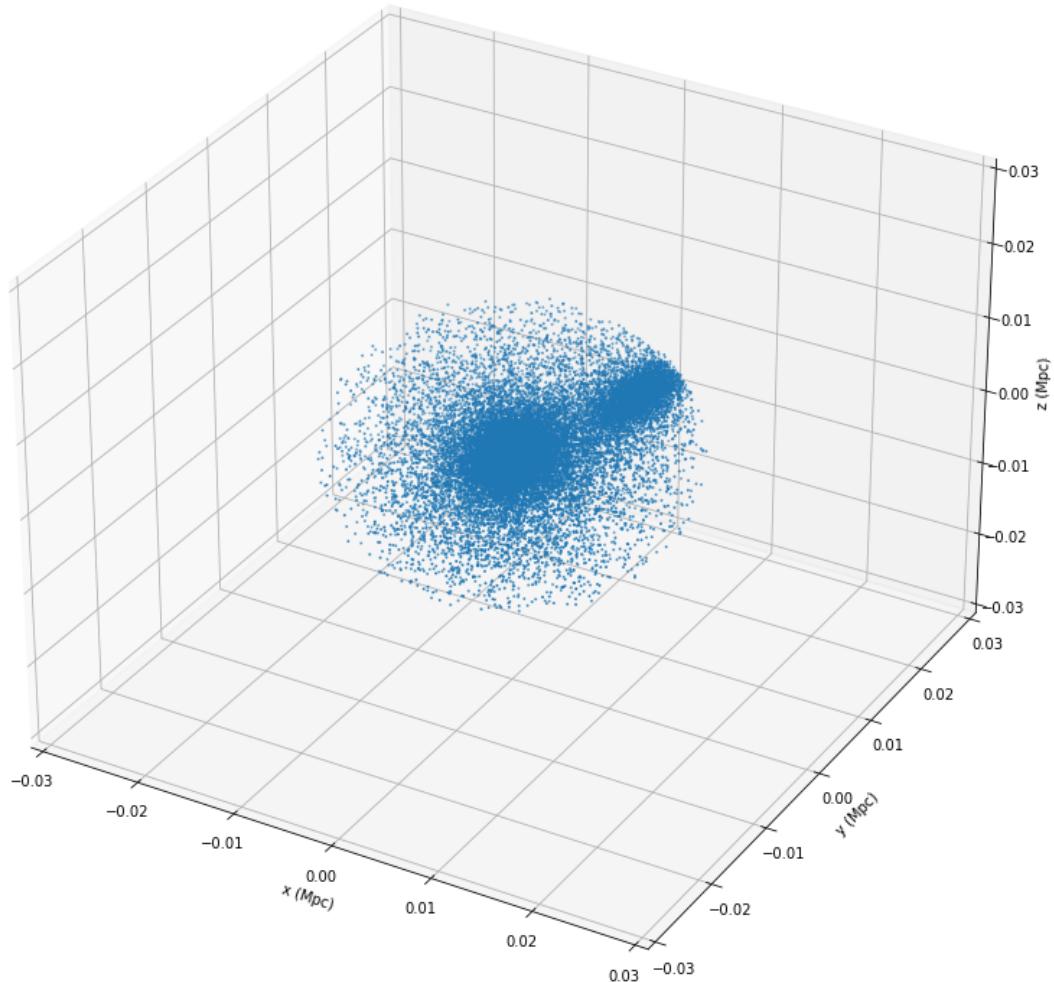
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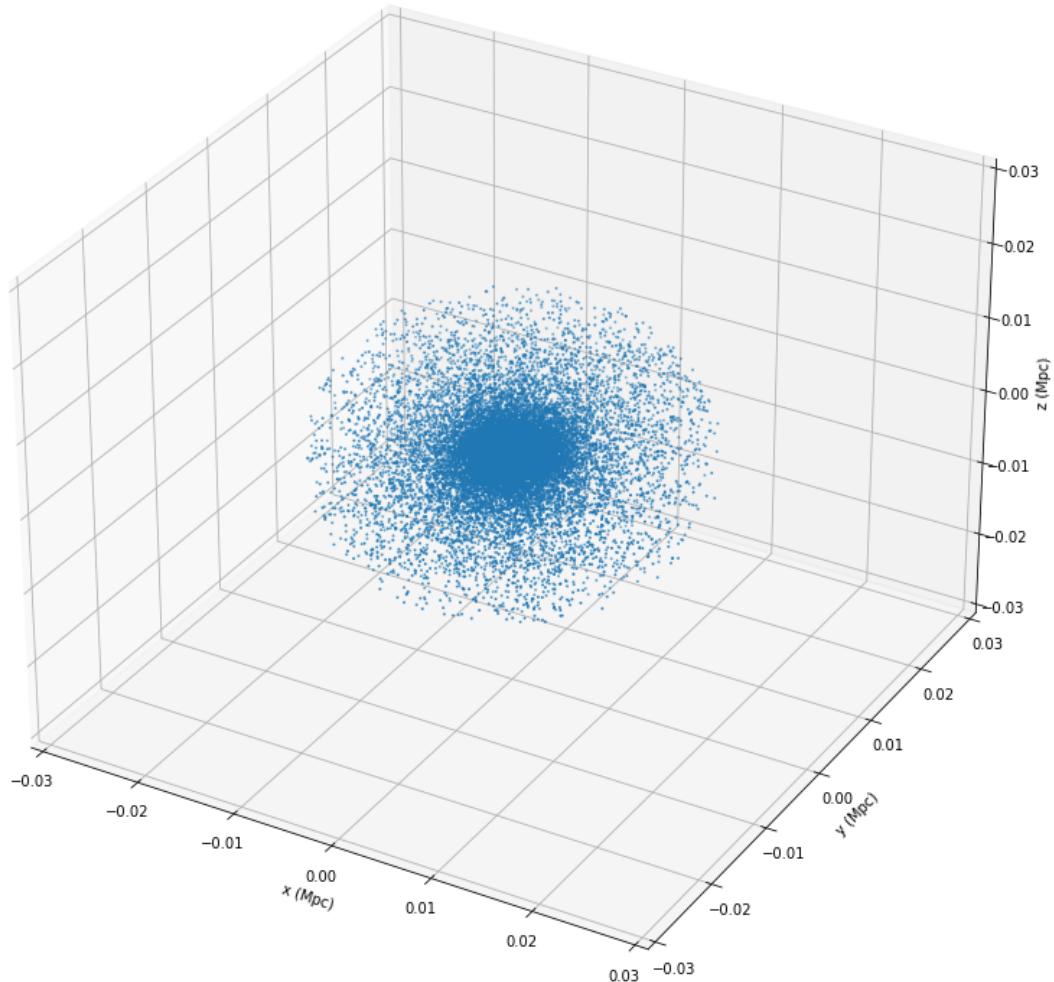
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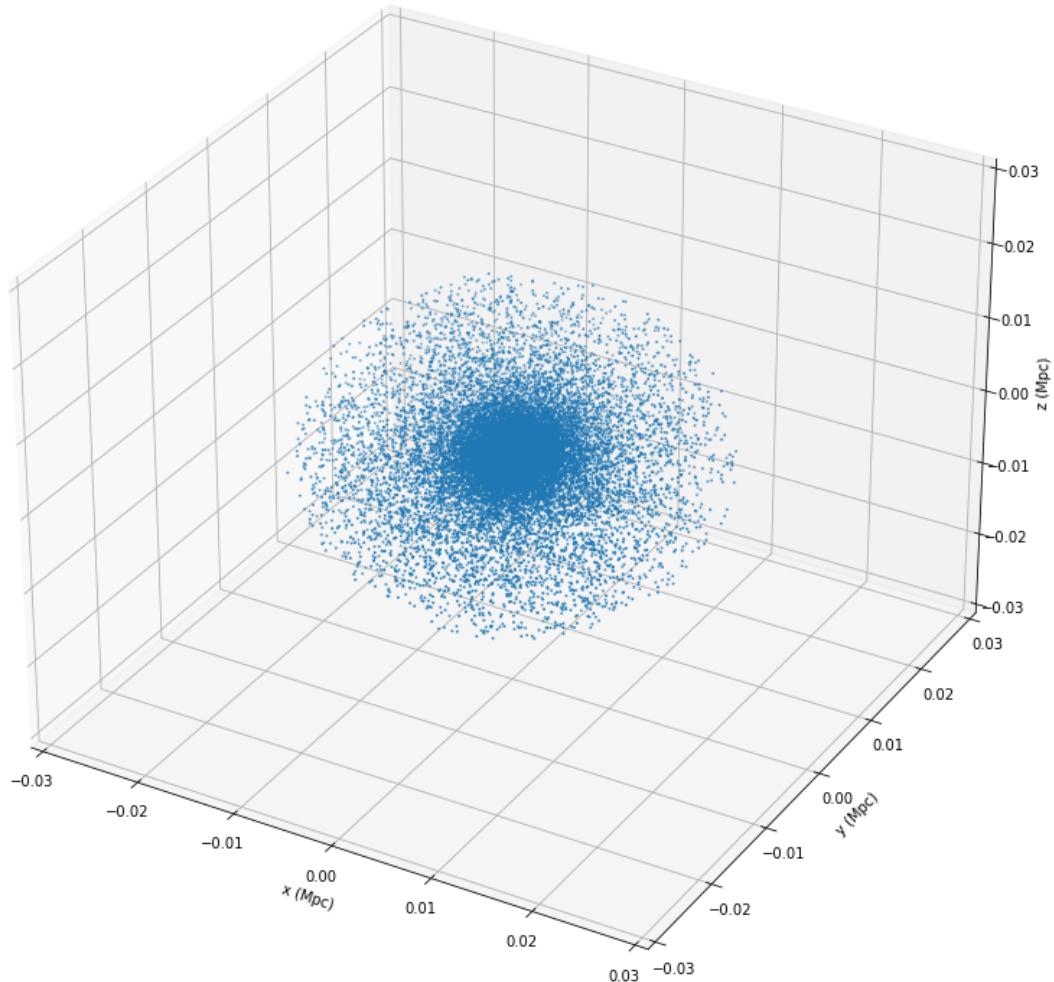
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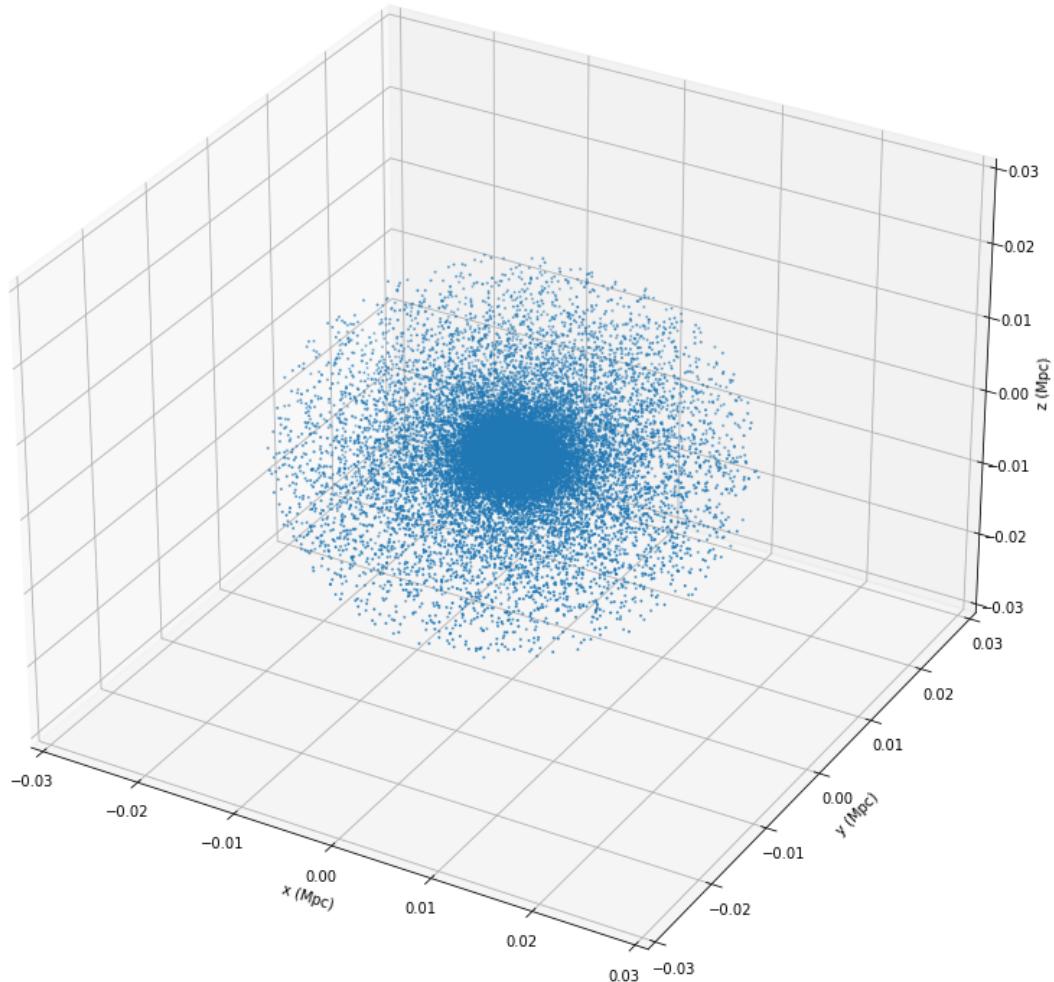
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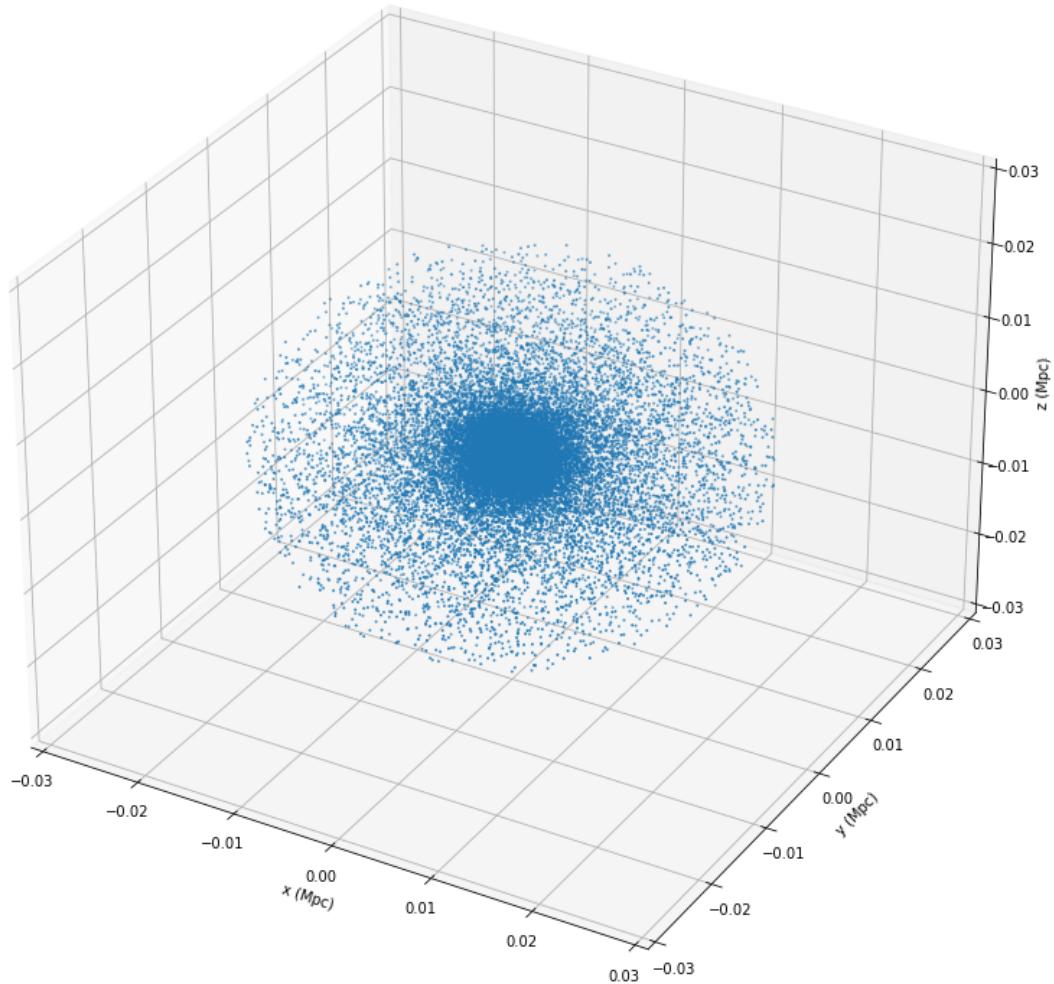
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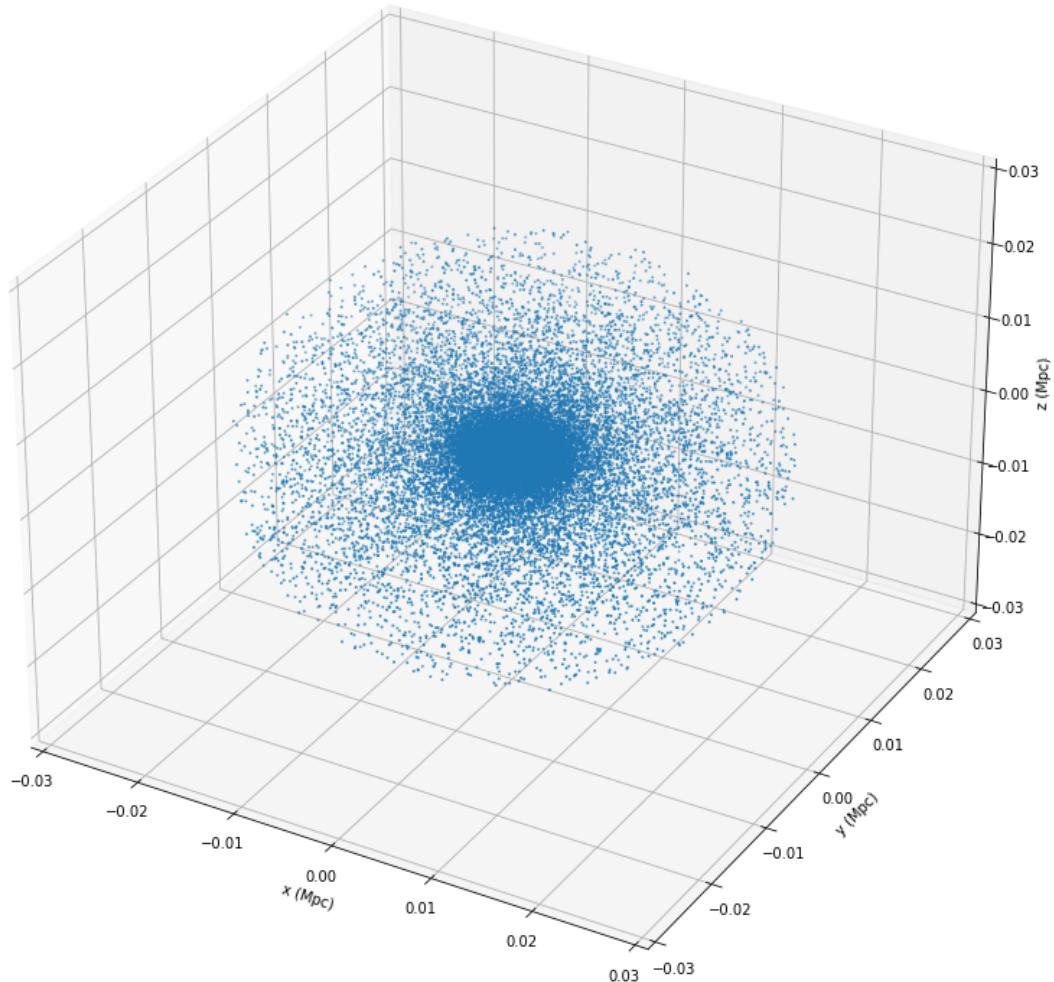
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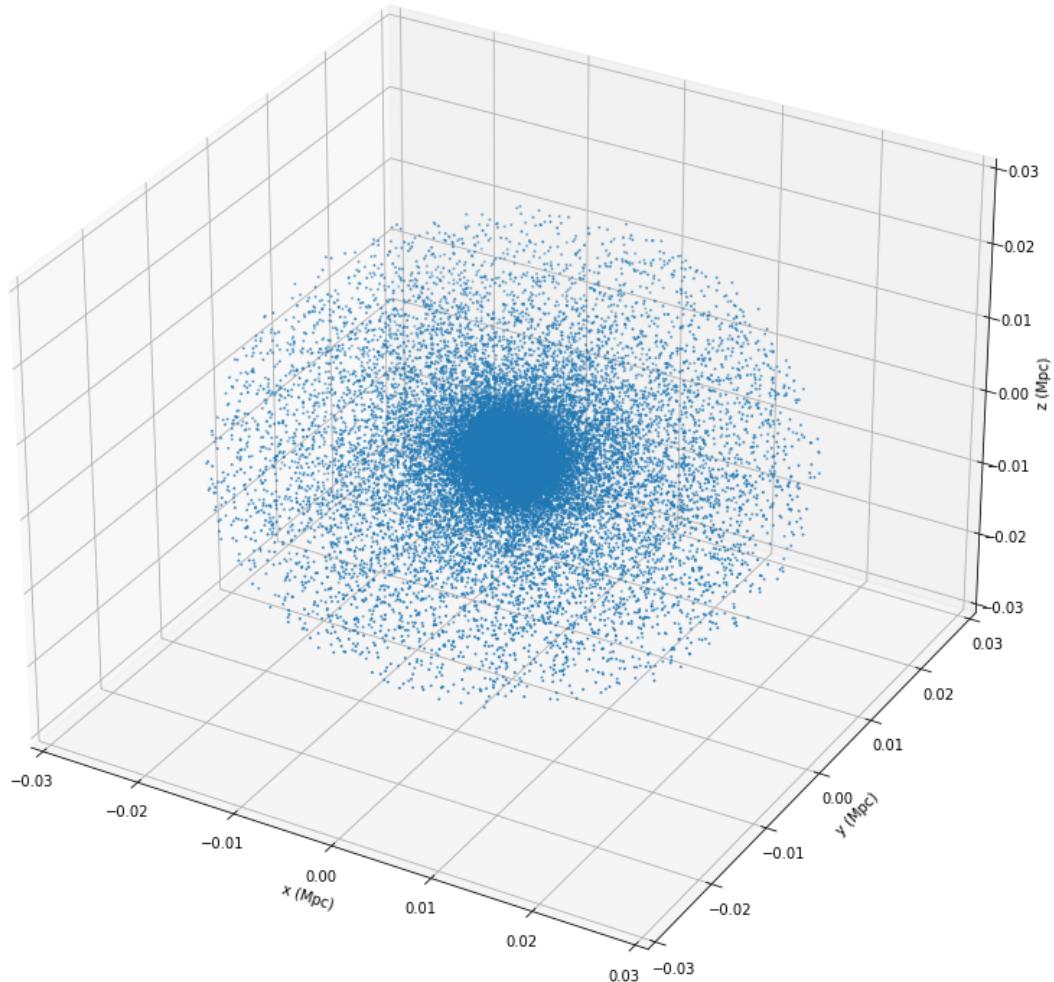
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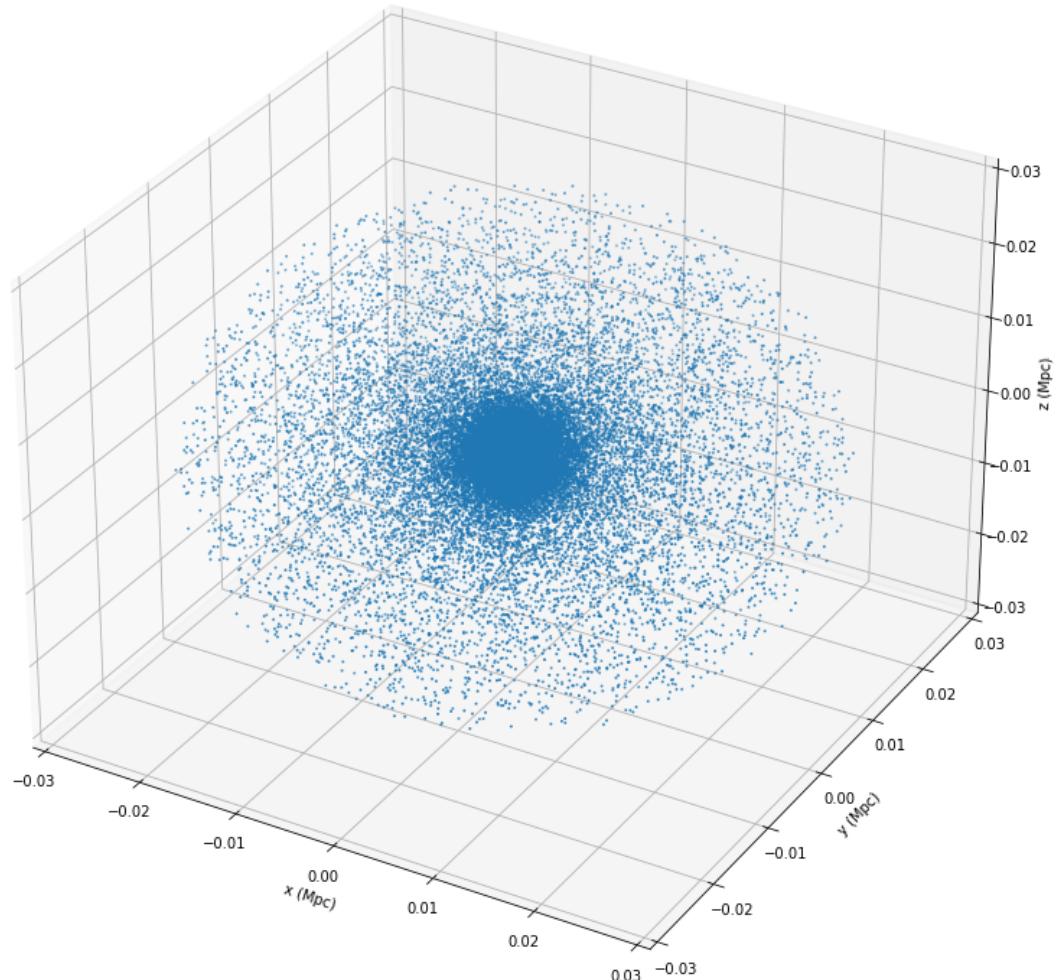
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