import matplotlib.pyplot as plt

from mpl\_toolkits.mplot3d import Axes3D

import numpy as np

# Example known star coordinates (in light years, relative to Earth)

# These are fictitious but inspired by real star positions for demonstration

stars = {

"Sol (Sun)": [0, 0, 0],

"Alpha Centauri": [4.37, -1.2, 0.5],

"Barnard's Star": [5.96, 0.1, -0.4],

"Wolf 359": [7.78, 2.0, 1.0],

"Luyten 726-8": [8.73, -3.0, 1.2],

"Sirius": [8.6, 1.5, -2.1],

"Procyon": [11.4, -1.5, 2.3],

"Vega": [25.0, 5.0, 3.0],

"Altair": [16.7, 2.2, -1.8],

"Betelgeuse": [642.5, -10.0, 50.0]

}

# Extract data for plotting

names = list(stars.keys())

coords = np.array(list(stars.values()))

x, y, z = coords[:, 0], coords[:, 1], coords[:, 2]

# Create 3D plot

fig = plt.figure(figsize=(12, 8))

ax = fig.add\_subplot(111, projection='3d')

ax.scatter(x, y, z, color='cyan', s=100)

# Annotate each point

for i, name in enumerate(names):

ax.text(x[i], y[i], z[i], name, size=10, zorder=1, color='white')

# Styling

ax.set\_facecolor("black")

ax.set\_title("Local Star Map - Resonant Coordinate Framework", color='white')

ax.set\_xlabel("X (Light Years)", color='white')

ax.set\_ylabel("Y (Light Years)", color='white')

ax.set\_zlabel("Z (Light Years)", color='white')

# Set axis label colors

ax.xaxis.label.set\_color('white')

ax.yaxis.label.set\_color('white')

ax.zaxis.label.set\_color('white')

# Set tick colors

ax.tick\_params(colors='white')

plt.tight\_layout()

plt.show()