Atractor

July 2, 2020

1 Atractor de Lorenz, solucionando las ecuaciones

2 dx/dt = a*(y-x) # dy/dt = x*(b-z)-y

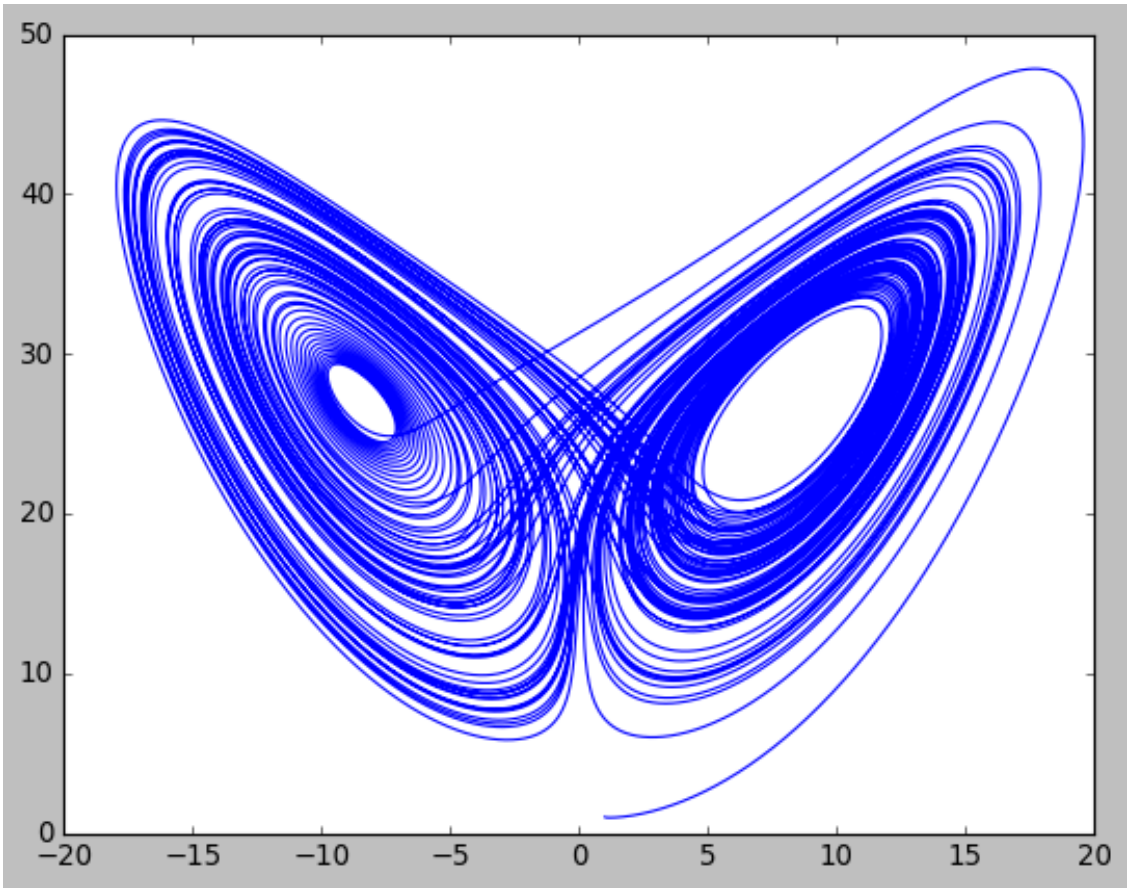
3 dz/dt = x*y-c*z

[155]:
```
import pandas as pd
import numpy as np
from scipy.integrate import odeint
import matplotlib as mpl
from mpl_toolkits.mplot3d import Axes3D
import numpy as np
import matplotlib.pyplot as plt
a = 10
b = 28 #b=28 ~ caos, b = 99.96 nudo tórico
c = 8/3
x0= 1.0
y0= 1.0
z0= 1.0
t = np.linspace(0,100,100000)
```

[156]:
```
def deriv(l,t, a, b, c):
    x, y, z = l
    dxdt    = a*(y-x)
    dydt    = x*(b-z)-y
    dzdt    = x*y - c*z
    return dxdt, dydt, dzdt
```

[157]:
```
l0 = x0, y0, z0
ret = odeint(deriv, l0, t, args=(a, b, c))
x,y,z = ret.T
```

[158]:
```
plt.plot(x,z)
plt.show()
```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