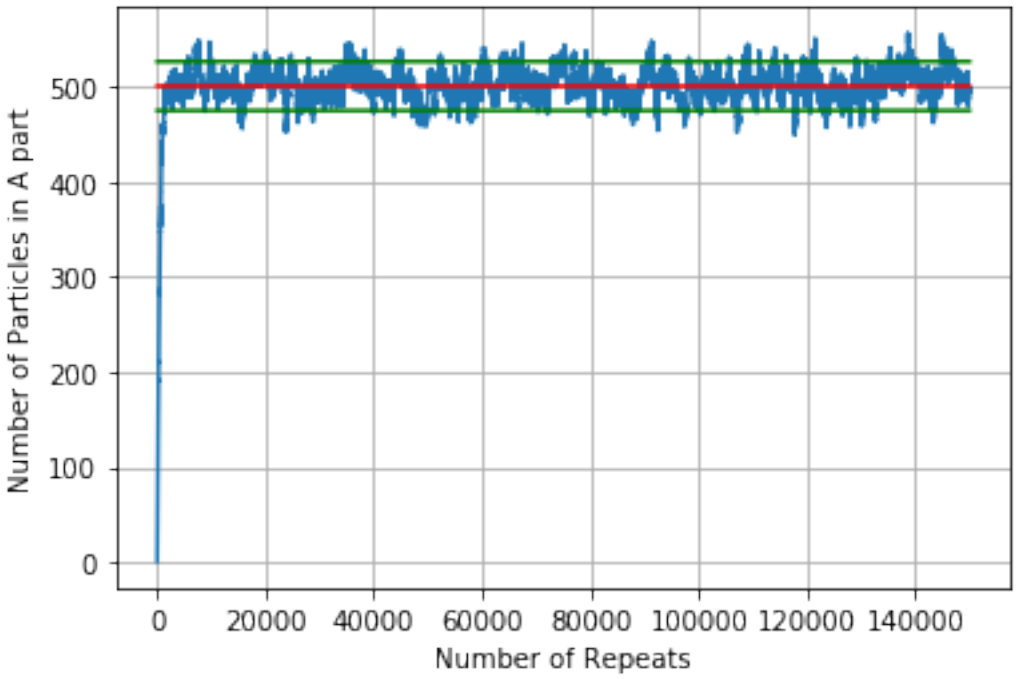
Erhenfest

An attemp to recreate Ehrenfet's model using python.

In [17]:

```
import random as rd
import matplotlib.pyplot as plt
import numpy as np

a = [False for x in range(1000)]
track = []
N = 150000
for i in range(N):
    b = rd.choice(range(1000))
    a[b] = not a[b]
    track.append(sum(a))
    #print (rd.choice(a))
kapa = np.mean(track)
b = [kapa for x in range(N)]
lapa = np.std(track)
c = [lapa + kapa for x in range(N)]
d = [-lapa + kapa for x in range(N)]
plt.plot(track)
plt.plot(b, color = "red")
plt.plot(c, color = "green")
plt.plot(d, color = "green")
plt.xlabel("Number of Repeats")
plt.ylabel("Number of Particles in A part")
plt.grid()
plt.show()
print ("STD = ",np.std(track), " Mean = ", kapa)
```



STD = 25.760194975656187 Mean = 500.70038666666
665