F 604 Física Estatística

Programa

I- Introdução

II- Do microscópico para o macroscópico

III- Elementos de probabilidade

IV- Revisão de Termodinâmica

V- Descrição estatística de um sistema físico

VI- Ensemble Microcanônico

V- Ensemble Canônico

VI- Gás clássico no formalismo canônico

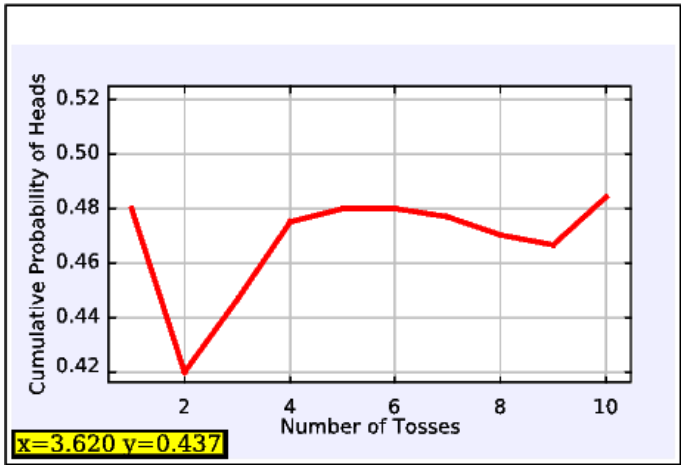
VII- Ensemble Grande Canônico

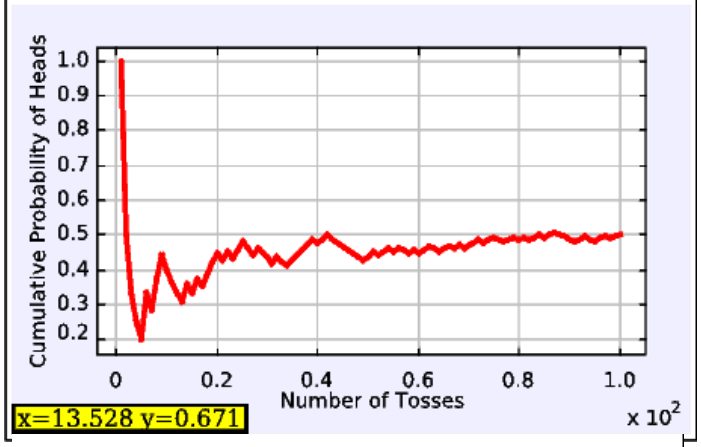
VIII- Gás Ideal Quântico

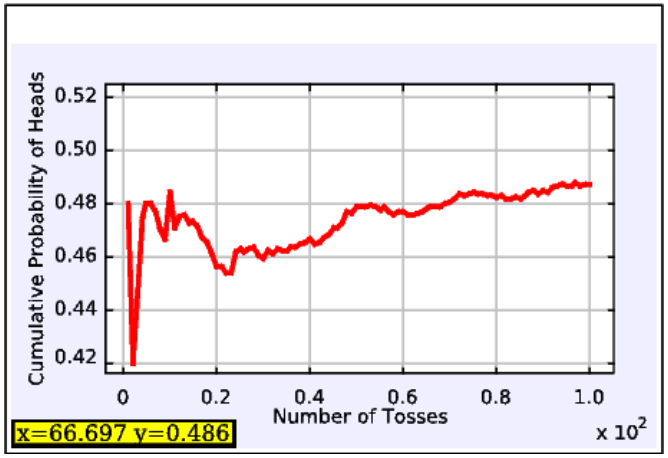
IX- Gás Ideal de Fermi

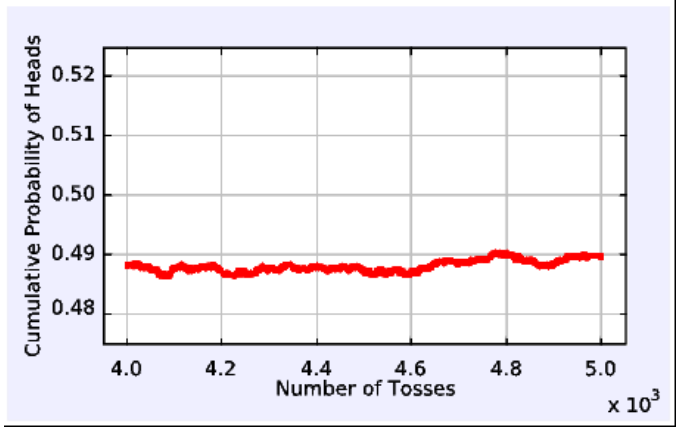
X- Bósons Livres

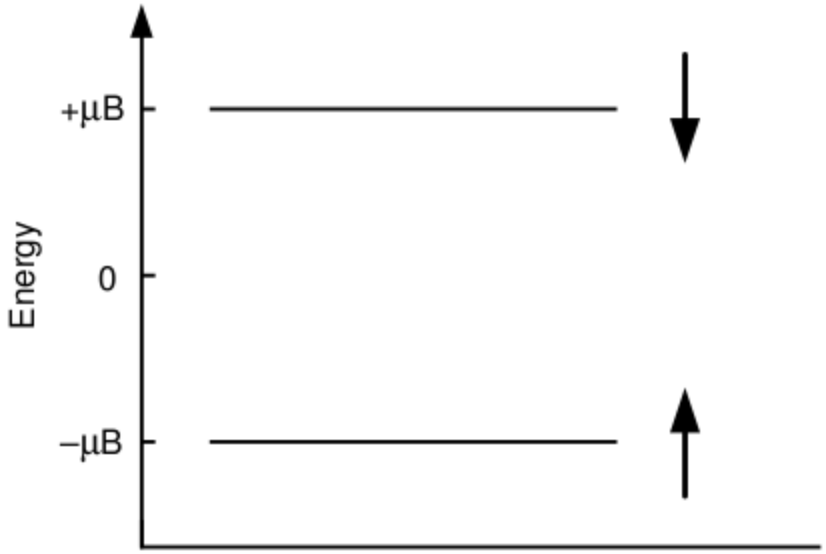

Cumulative Probability of Heads
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
10
20
30
40
50
Number of Tosses
x=6.868 y=0.622

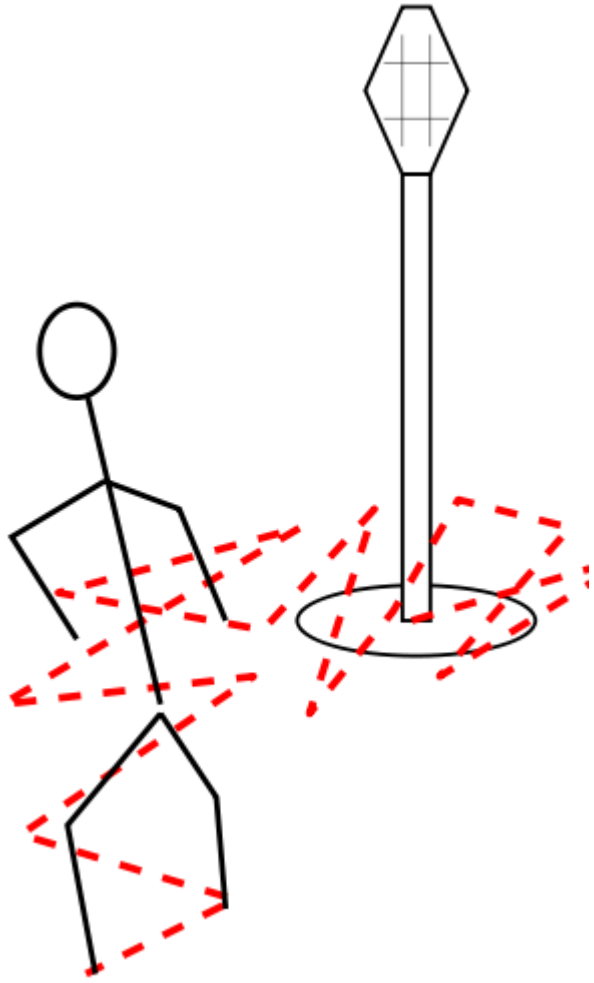

Cumulative Probability of Heads
0.52
0.50
0.48
0.46
0.44
0.42
2
4
6
8
10
Number of Tosses
x=3.620 y=0.437

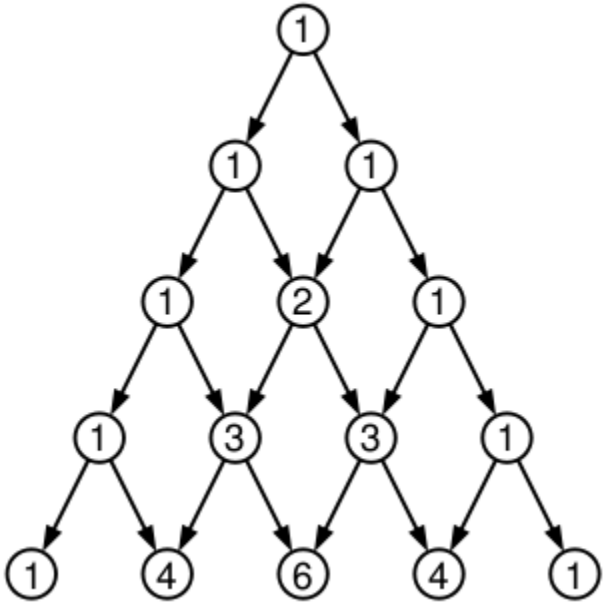

Cumulative Probability of Heads
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
0.2
0.4
0.6
0.8
1.0
Number of Tosses
x 10^2
x=13.528 y=0.671

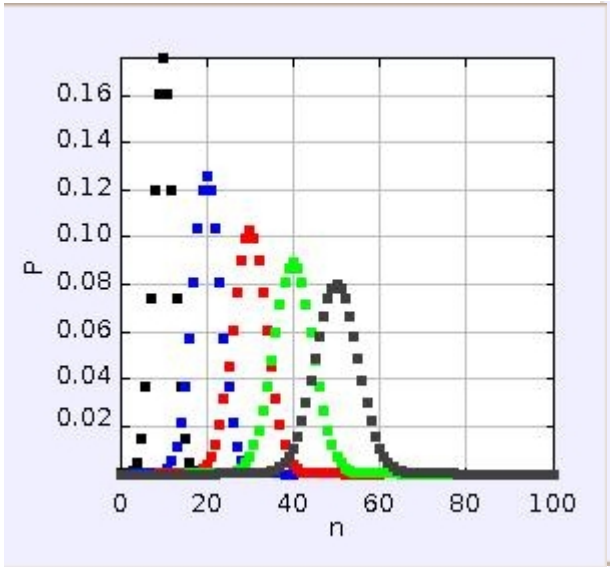

Cumulative Probability of Heads
0.52
0.50
0.48
0.46
0.44
0.42
0
0.2
0.4
0.6
0.8
1.0
Number of Tosses
x 10^2
x=66.697 y=0.486

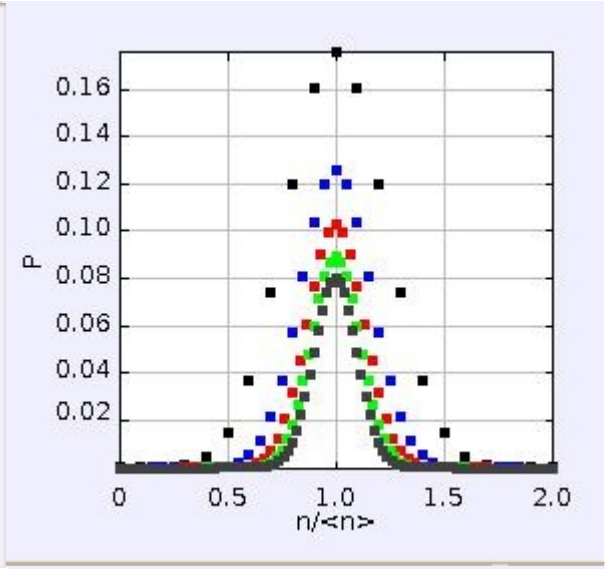

Cumulative Probability of Heads
0.52
0.51
0.50
0.49
0.48
4.0
4.2
4.4
4.6
4.8
5.0
Number of Tosses
x 10^3

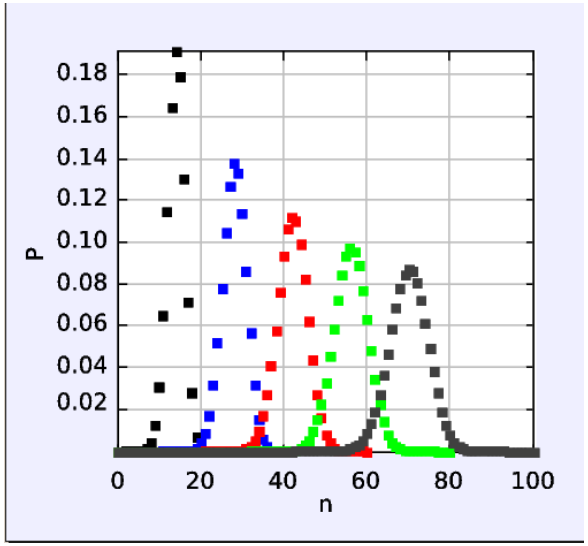

Energy
+μB
0
−μB

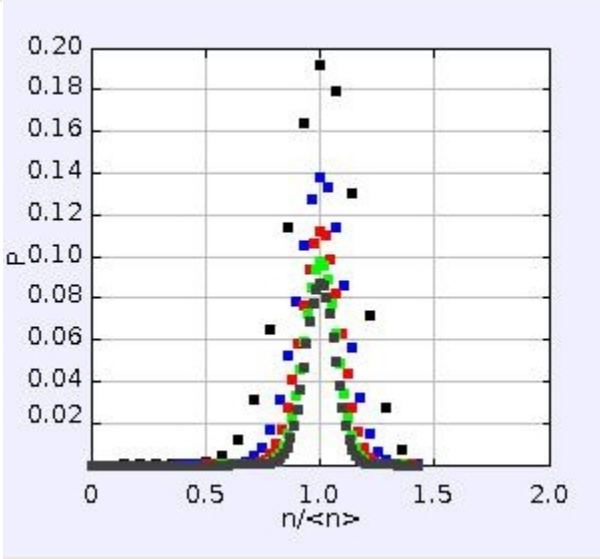



1
1 1
1 2 1
1 3 3 1
1 4 6 4 1


P
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0
20
40
60
80
100
n

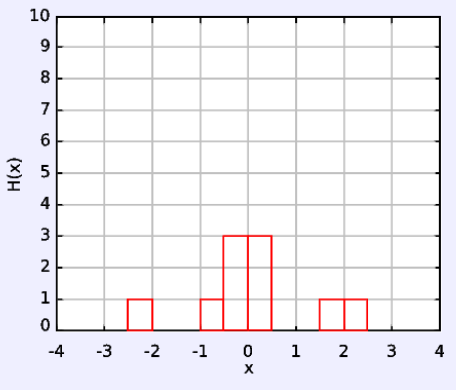

P
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0
0.5
1.0
1.5
2.0
n/<n>


P
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0
20
40
60
80
100
n


P
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0
0.5
1.0
1.5
2.0
n/<n>

File Display Tools Help

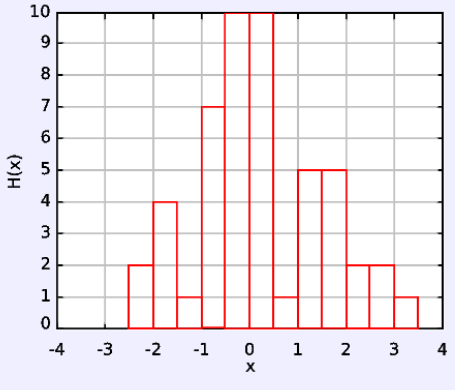
trials= 10 <x>= 0.18 <x²>= 1.35



N= 4 p= 0.50

File Display Tools Help

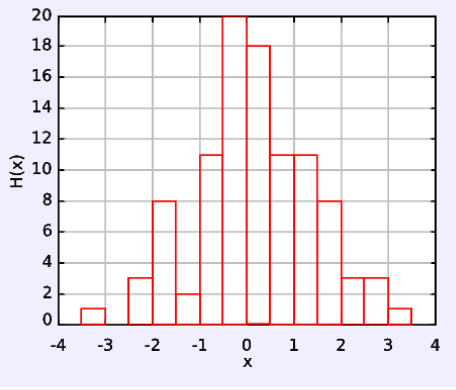
trials= 50 <x>= 0.24 <x²>= 1.81



N= 4 p= 0.50

File Display Tools Help

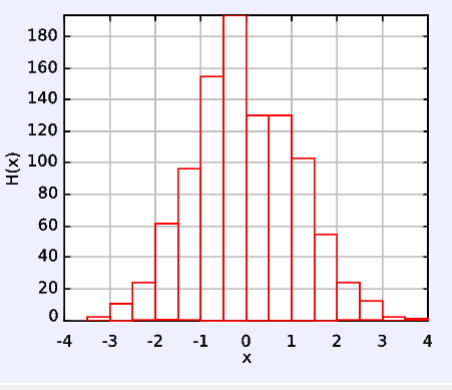
trials= 100 <x>= 0.18 <x²>= 1.58



N= 4 p= 0.50

File Display Tools Help

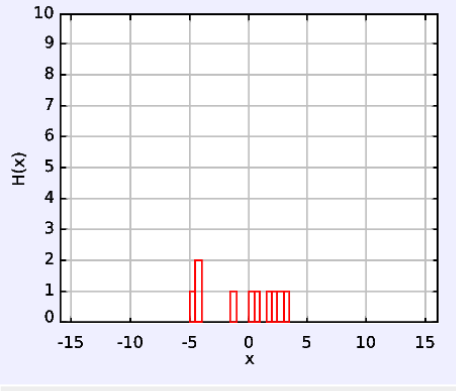
trials= 1000 <x>= -0.03 <x²>= 1.29



N= 4 p= 0.50

File Display Tools Help

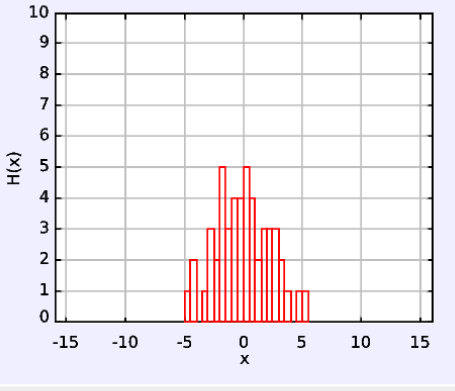
trials= 10 <x>= -0.28 <x²>= 8.55



N= 016 p= 0.50

File Display Tools Help

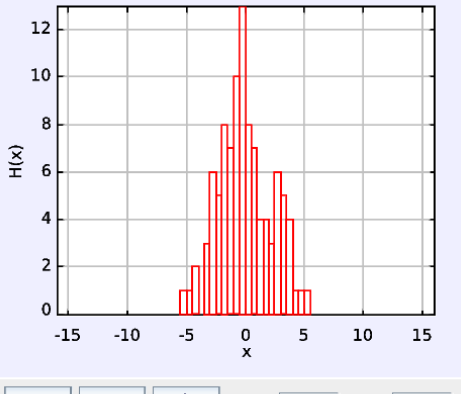
trials= 50 <x>= 0.03 <x²>= 5.24



N= 016 p= 0.50

File Display Tools Help

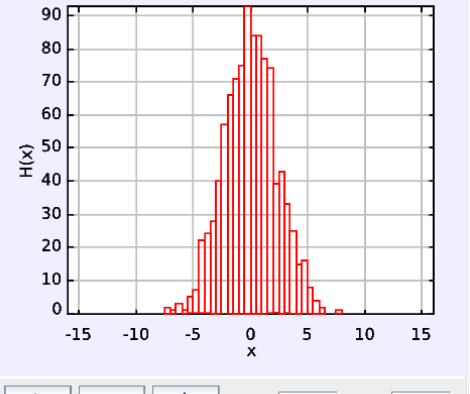
trials= 100 <x>= -0.01 <x²>= 4.85



N= 016 p= 0.50

File Display Tools Help

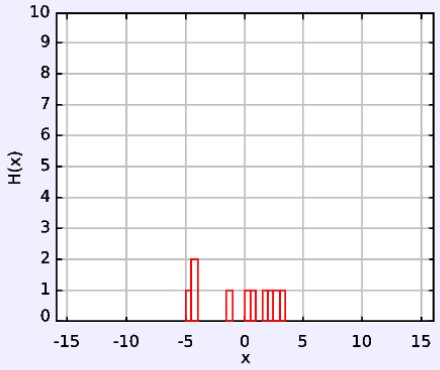
trials= 1000 <x>= 0.04 <x²>= 5.29



N= 016 p= 0.50

File Display Tools Help

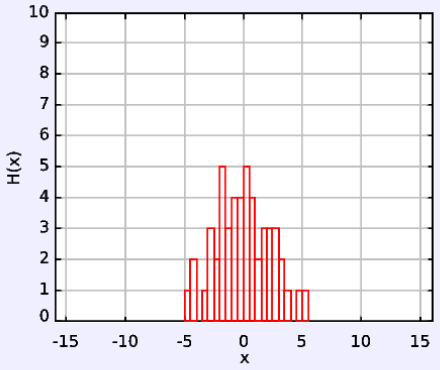
trials= 10 <x>= -0.28 <x²>= 8.55



N= 016 p= 0.50

File Display Tools Help

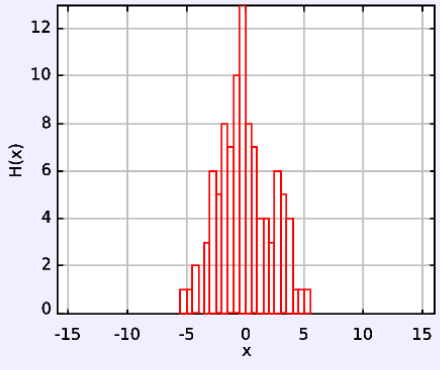
trials= 50 <x>= 0.03 <x²>= 5.24



N= 016 p= 0.50

File Display Tools Help

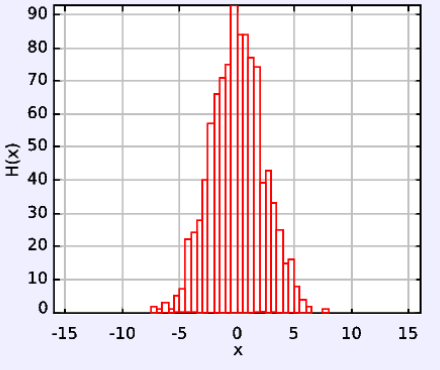
trials= 100 <x>= -0.01 <x²>= 4.85



N= 016 p= 0.50

File Display Tools Help

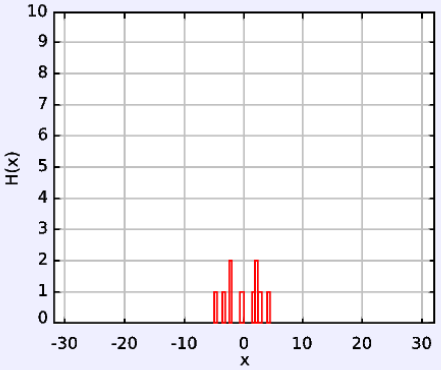
trials= 1000 <x>= 0.04 <x²>= 5.29



N= 016 p= 0.50

File Display Tools Help

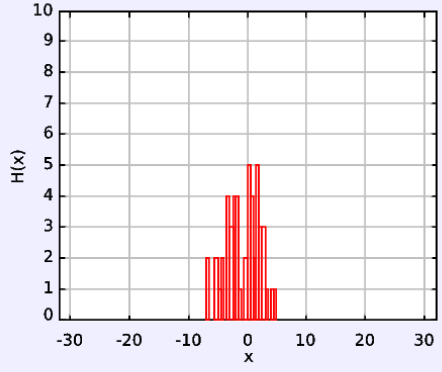
trials= 10 <x>= 0.07 <x²>= 8.42



N= 32 p= 0.50

File Display Tools Help

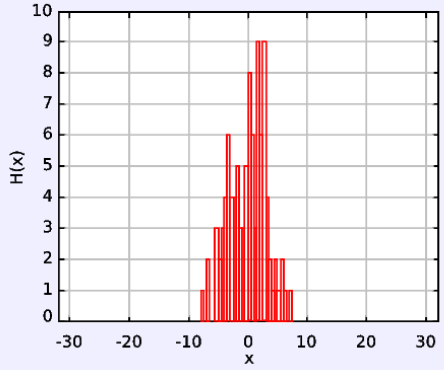
trials= 50 <x>= -0.68 <x²>= 8.18



N= 32 p= 0.50

File Display Tools Help

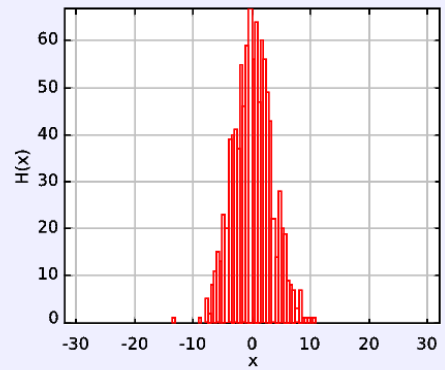
trials= 100 <x>= -0.01 <x²>= 9.62



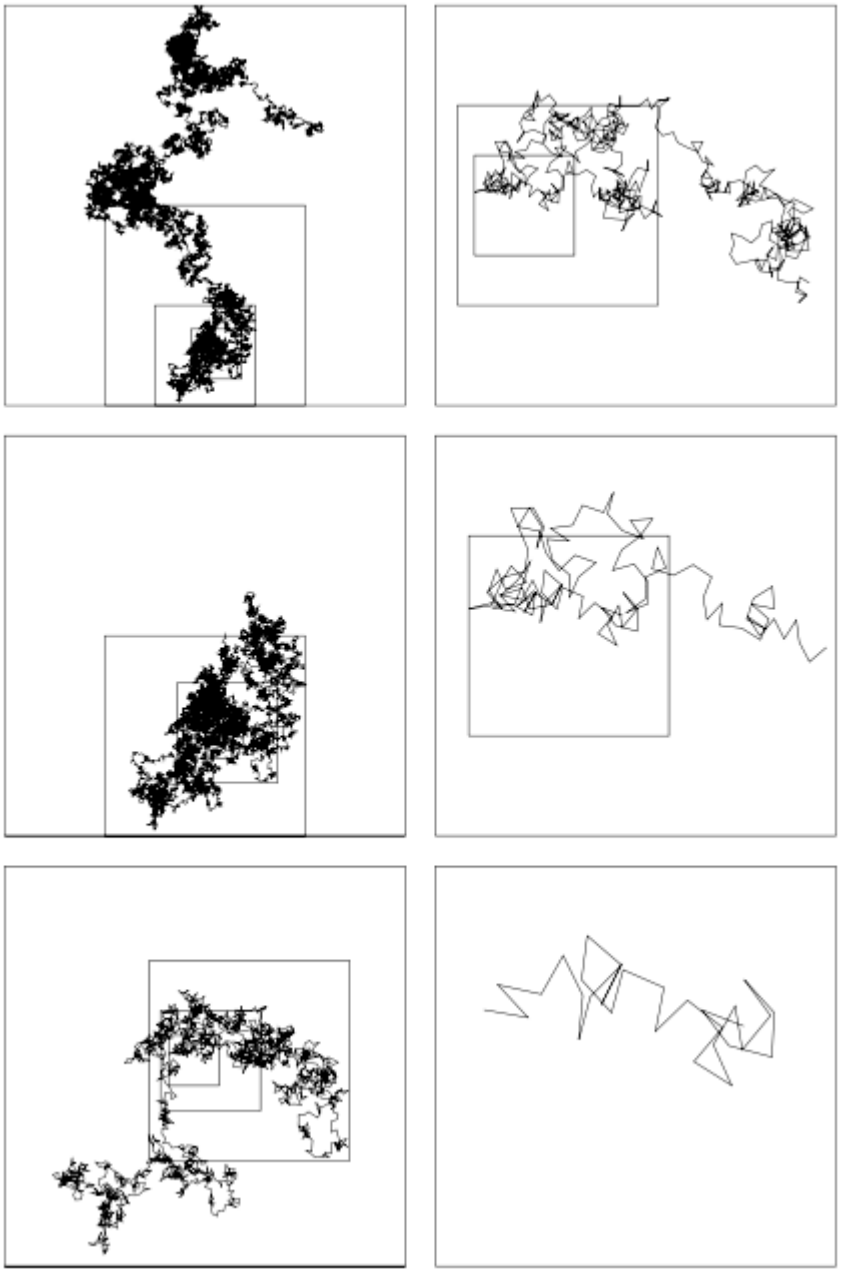
N= 32 p= 0.50

File Display Tools Help

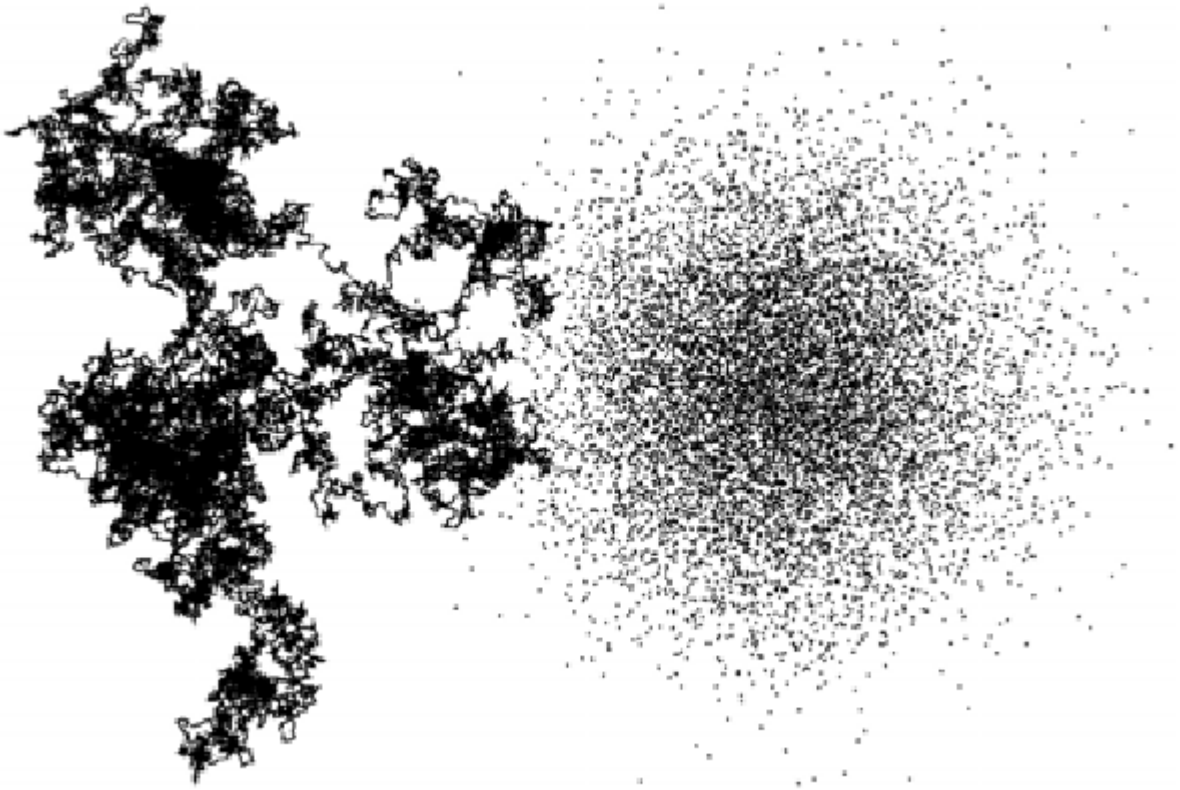
trials= 1000 <x>= 0.17 <x²>= 10.97



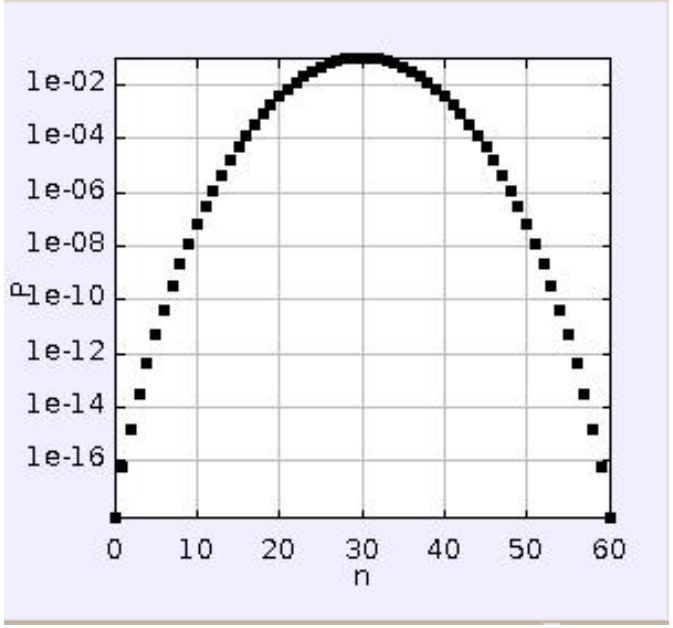
N= 32 p= 0.50



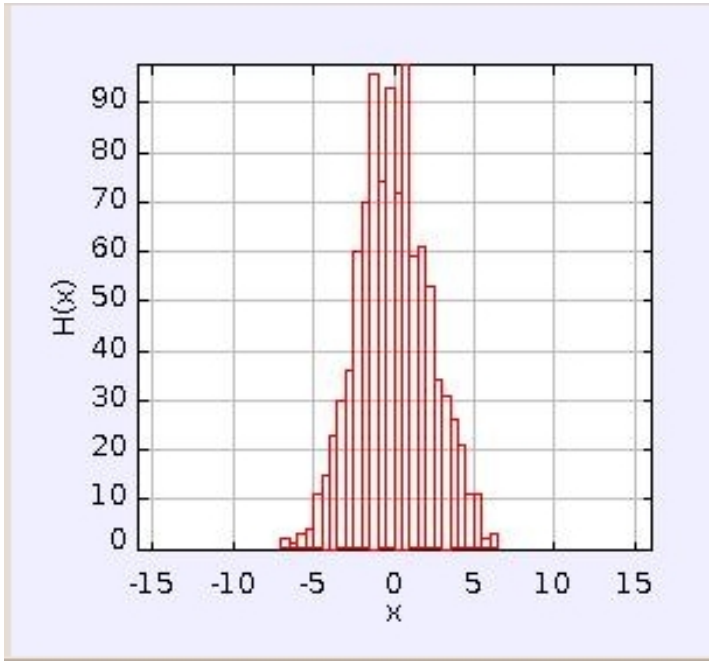
31-32.000 passos



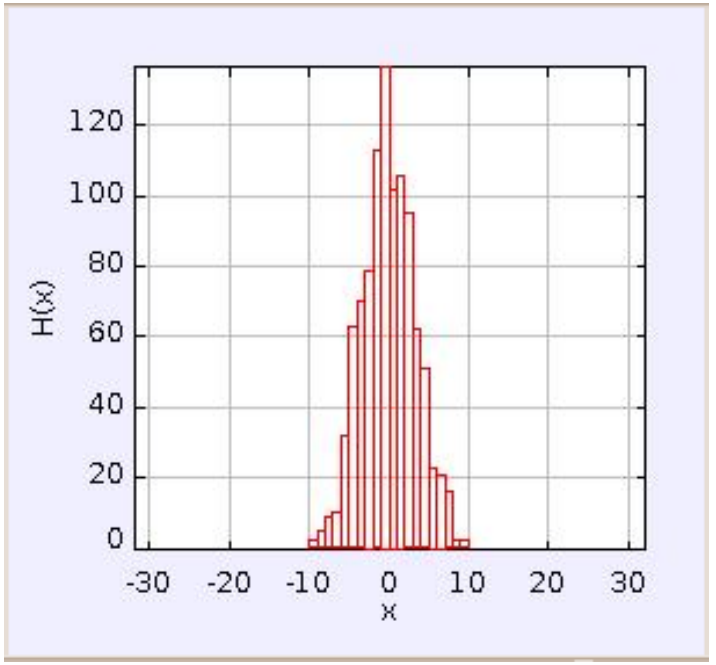
128.000 passos


1e-02
1e-04
1e-06
1e-08
1e-10
1e-12
1e-14
1e-16
p
0
10
20
30
40
50
60
n

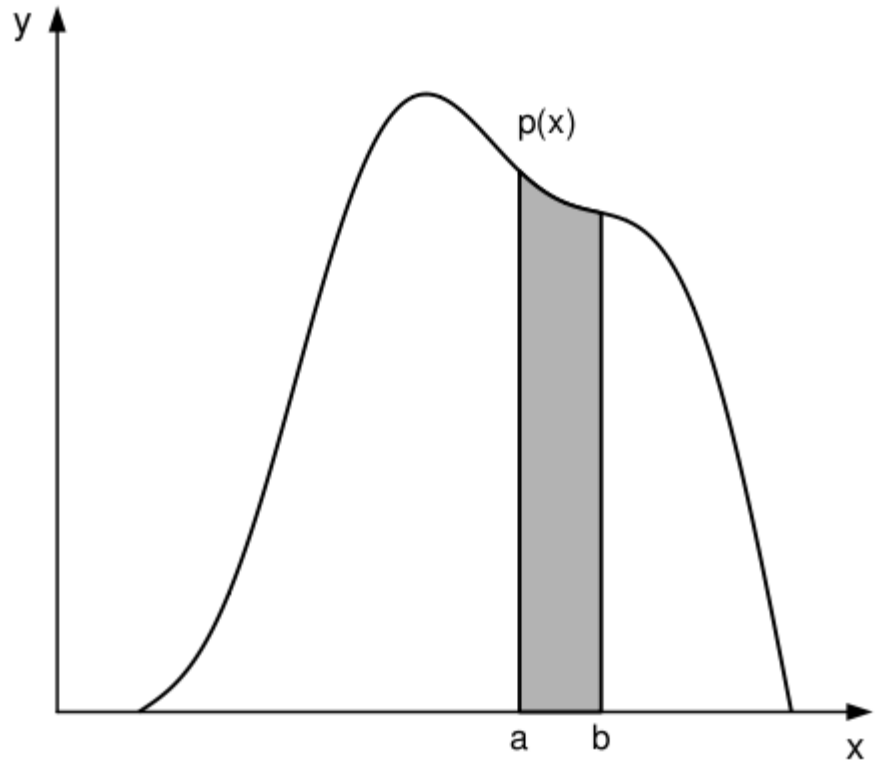
n	$P_{10}(n)$	Gaussian approximation
0	0.000977	0.001700
1	0.009766	0.010285
2	0.043945	0.041707
3	0.117188	0.113372
4	0.205078	0.206577
5	0.246094	0.252313

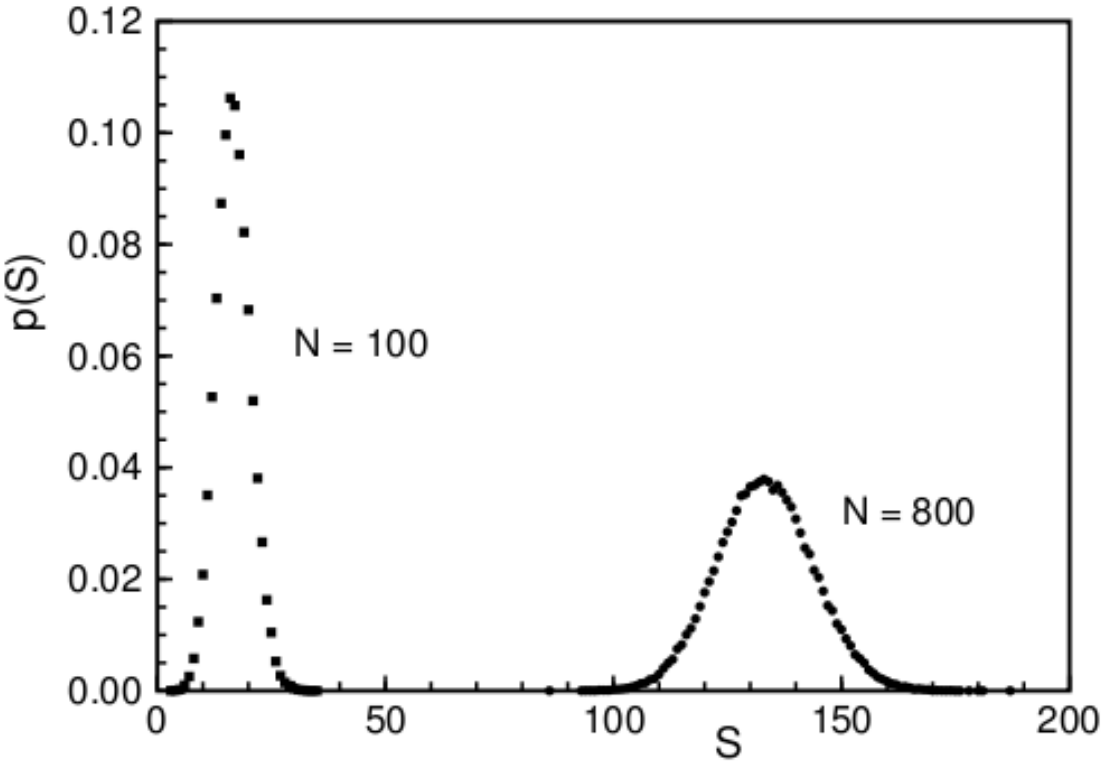


N=16, Δx=0,5, M=1000



N=32, Δx=1,0, M=1000


y
p(x)
a
b
x


0.12
0.10
0.08
0.06
0.04
0.02
0.00
p(S)
N = 100
N = 800
0
50
100
150
200
S