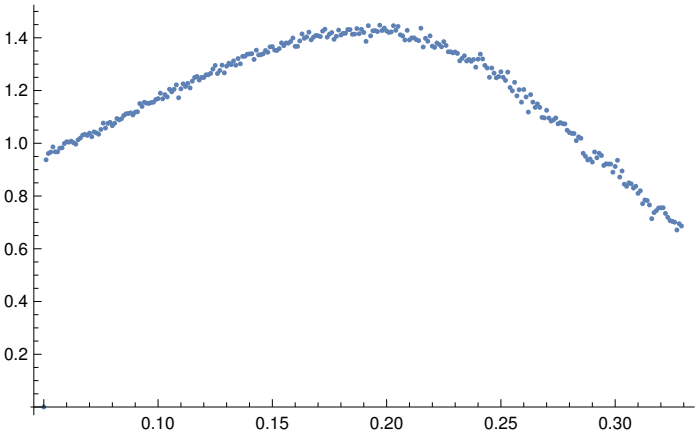
In[1333]:=
```
SetDirectory["Documents/comp_phys/Ising_Model/scaling"];
CvData = Import["4_cv.dat", "Table"];
MagnetData = Import["4_magnetization.dat", "Table"];
SusceptData = Import["4_susceptibility.dat", "Table"];
```

SetDirectory::cdir : Cannot set current directory to Documents/comp_phys/Ising_Model/scaling. >>

In[1345]:=
```
ListPlot[Take[SusceptData, {1, 280}], PlotRange → Full]
```

Out[1345]=



In[1353]:=
```
SusceptFit = NonlinearModelFit[Take[SusceptData],
    A * Exp[-(x - mu)^2 / (2 Sigma^2)], {A, Sigma, mu}, x];
```

In[1354]:=
```
SusceptFit[{"BestFit", "ParameterTable"}]
```

Out[1354]=

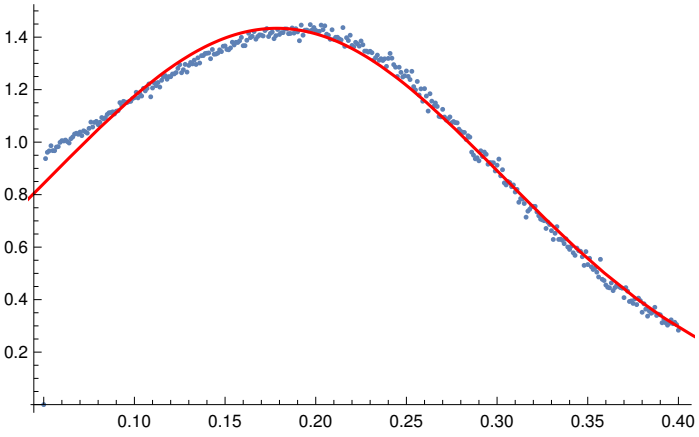
$$\left\{1.43374\, e^{-32.2016\,(-0.17853+x)^2},\right.$$

	Estimate	Standard Error	t-Statistic	P-Value
A	1.43374	0.00501387	285.955	$5.678067263979\times10^{-415}$
Sigma	0.124608	0.000796756	156.394	$1.630088186045\times10^{-324}$
mu	0.17853	0.000634639	281.309	$1.655864637433\times10^{-412}$

$\left.\right\}$

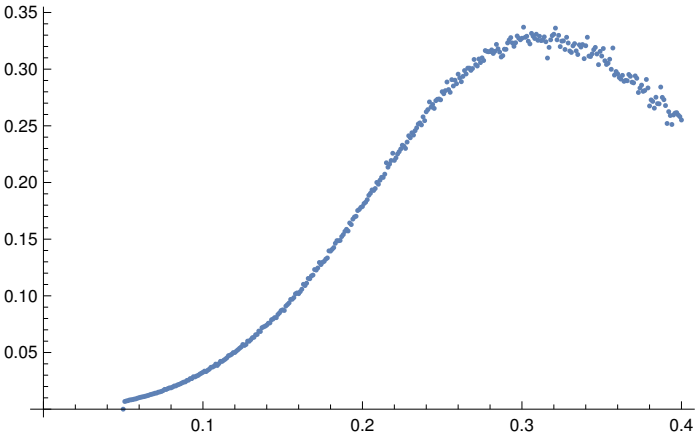
In[1403]:=
```
Show[ListPlot[SusceptData, PlotRange → Full],
 Plot[SusceptFit[x], {x, 0, 0.8}, PlotRange → {{0, 0.8}, {0, 400}}, PlotStyle → Red]]
```

Out[1403]=



In[1349]:=
```
ListPlot[Take[CvData]]
```

Out[1349]=



In[1357]:=
```
CvFit = NonlinearModelFit[Take[CvData],
  A * Exp[-(x - mu)^2 / (2 * Sigma^2)], {A, Sigma, {mu, 0.3}}, x]
```

Out[1357]=
```
FittedModel[ 0.332712 e^-47.3437 (-≪18≫+x)^2 ]
```

In[1358]:=
```
CvFit[{"BestFit", "ParameterTable"}]
```

Out[1358]=

$$0.332712\, e^{-47.3437\,(-0.315516+x)^2}$$

	Estimate	Standard Error	t-Statistic	P-Value
A	0.332712	0.000582209	571.465	$2.253626170293\times10^{-519}$
Sigma	0.102767	0.00034677	296.355	$2.382227437713\times10^{-420}$
mu	0.315516	0.000334756	942.526	$6.054448506063\times10^{-595}$

In[1356]:=
```
Show[ListPlot[CvData], Plot[CvFit[x], {x, 0, 0.8}, PlotRange → Full, PlotStyle → Red]]
```

Out[1356]=