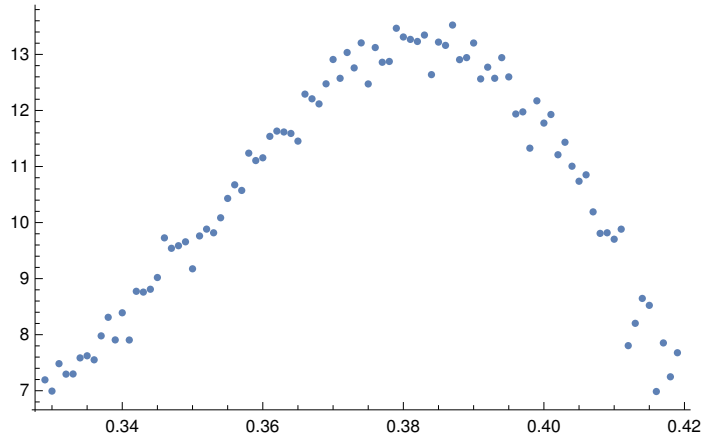
```
SetDirectory["Documents/comp_phys/Ising_Model/scaling"];
CvData = Import["16_cv.dat", "Table"];
MagnetData = Import["16_magnetization.dat", "Table"];
SusceptData = Import["16_susceptibility.dat", "Table"];
```

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

```
ListPlot[Take[SusceptData, {130, 220}], PlotRange → Full]
```




```
SusceptFit = NonlinearModelFit[Take[SusceptData, {130, 240}],
   A * Exp[-(x - mu)^2 / (2 Sigma^2)], {{A, 14}, Sigma, {mu, 0.38}}, x];
```

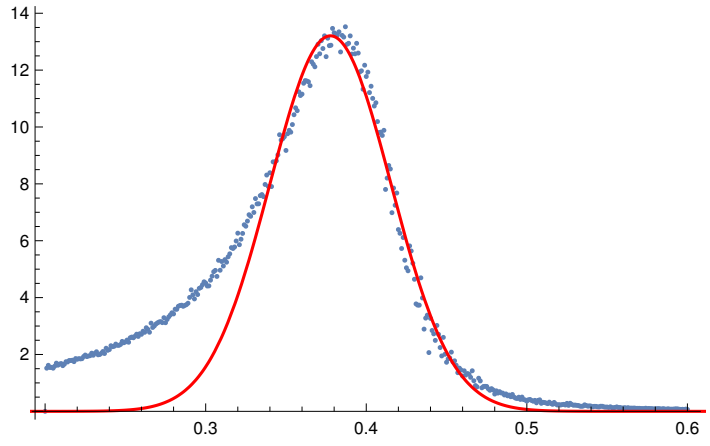
```
SusceptFit[{"BestFit", "ParameterTable"}]
```

$$\left\{13.2056\, e^{-352.966\,(-0.377711+x)^2},\right.$$

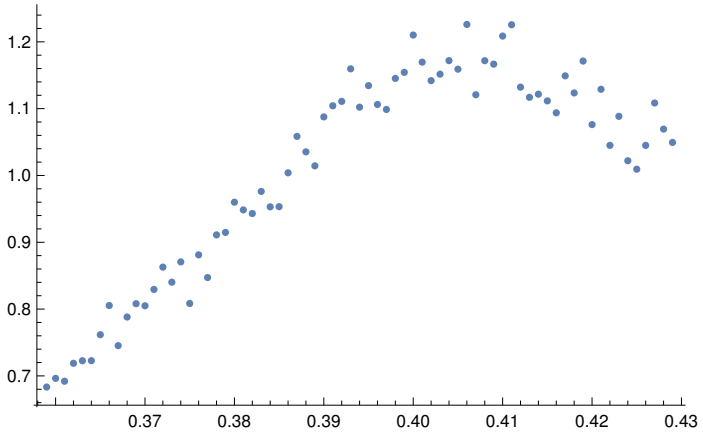
	Estimate	Standard Error	t-Statistic	P-Value
A	13.2056	0.101519	130.08	1.6088×10^{-120}
Sigma	−0.0376373	0.000470779	−79.947	6.26755×10^{-98}
mu	0.377711	0.00035946	1050.77	2.31093×10^{-218}

$\left.\right\}$

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



```
ListPlot[Take[CvData, {160, 230}]]
```




```
CvFit = NonlinearModelFit[Take[CvData, {160, 230}],
  A * Exp[-(x - mu)^2 / (2 * Sigma^2)], {A, Sigma, {mu, 0.3}}, x]
```

FittedModel[$1.15552\, e^{-245.889\,(-\ll 20 \gg +x)^2}$]

```
CvFit[{"BestFit", "ParameterTable"}]
```

$1.15552\, e^{-245.889\,(-0.407793+x)^2}$,

	Estimate	Standard Error	t-Statistic	P-Value
A	1.15552	0.00616687	187.376	5.2086×10^{-94}
Sigma	−0.0450936	0.00110942	−40.6463	1.94488×10^{-49}
mu	0.407793	0.000725581	562.023	2.00901×10^{-126}

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