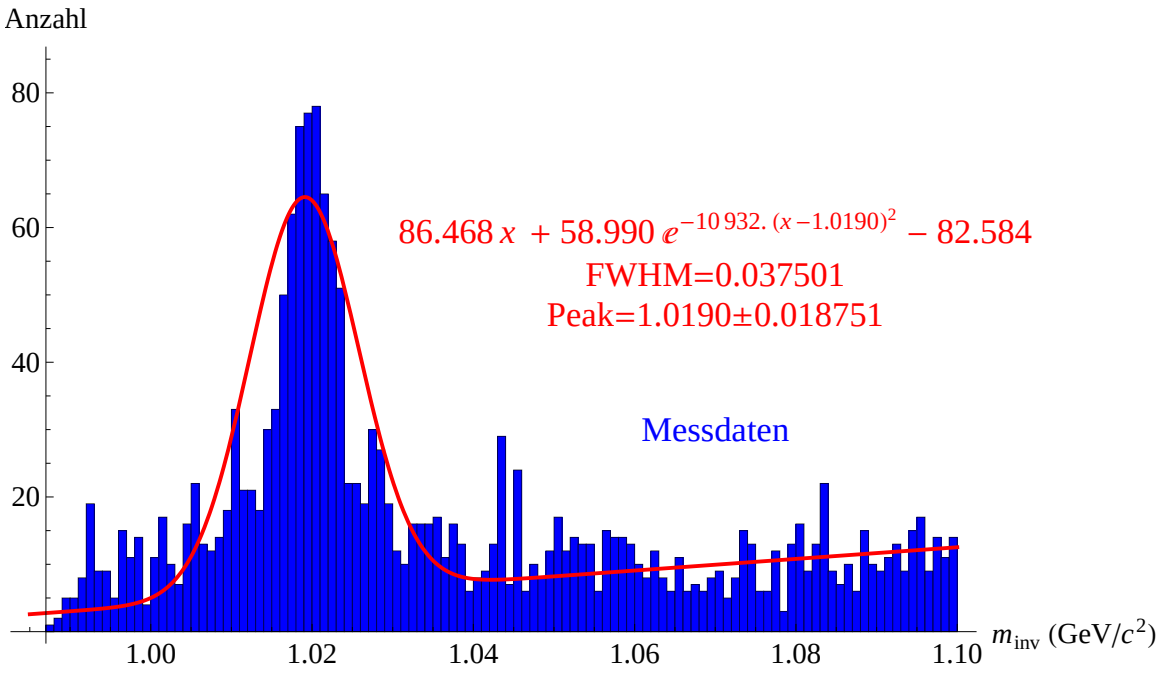
```
data =
  Import["E:\\Dokumente und Einstellungen\\Sword\\Eigene Dateien\\Downloads\\KplKmin(1).txt", "Table", "FieldSeparators" → "|"][[4 ;; -3, All]];

Zeilenskalar[v1_, v2_] := (erg = {};
  For[i = 1, i <= Length[v1], i++, erg = Append[erg, v1[[i]].v2[[i]]]];
  erg)

mk = 493.677 * 10^-3;

p1 = {data[[All, 1]] * Sin[data[[All, 2]]] * Cos[data[[All, 3]]],
    data[[All, 1]] * Sin[data[[All, 2]]] * Sin[data[[All, 3]]], data[[All, 1]] * Cos[data[[All, 2]]]} // Transpose;
p2 = {data[[All, 4]] * Sin[data[[All, 5]]] * Cos[data[[All, 6]]],
    data[[All, 4]] * Sin[data[[All, 5]]] * Sin[data[[All, 6]]], data[[All, 4]] * Cos[data[[All, 5]]]} // Transpose;

e1 = Sqrt[data[[All, 1]]^2 + mk^2];

e2 = Sqrt[data[[All, 4]]^2 + mk^2];

m = Sqrt[(e1^2 + 2 e1 e2 + e2^2 - Zeilenskalar[p1, p1] - 2 Zeilenskalar[p1, p2] - Zeilenskalar[p2, p2])];

h = HistogramList[m, 100]; hd = {h[[1]][[1 ;; -2]], h[[2]]} // Transpose;

g = 1 / (σ Sqrt[2 π]) Exp[-1 / 2 ((x - μ) / σ)^2] + a x + b;

gv = FindFit[hd, g, {{σ, 0.001}, {μ, 1.02}, {a, 0}, {b, -8}}, x, WorkingPrecision → 5]

{σ → 0.0067628, μ → 1.0190, a → 86.468, b → -82.584}
```

```
Show[Histogram[m, 100, PlotRange → All, ChartStyle → Blue], Plot[g /. gv, {x, 0.985, 1.1}, PlotRange → All, PlotStyle → {Red, Thick}], PlotRange → All,
 Epilog → {Inset[g /. gv, {1.07, 60}, BaseStyle → {18, Red}], Inset[StringForm["FWHM=``", 8 Log[2] σ /. gv], {1.07, 53}, BaseStyle → {18, Red}],
   Inset[StringForm["Peak=``±``", μ /. gv, 4 Log[2] σ /. gv], {1.07, 47}, BaseStyle → {18, Red}],
   Inset["Messdaten", {1.07, 30}, BaseStyle → {18, Blue}]}, ImageSize → 600, BaseStyle → {15, Black}, AxesLabel → {"m_inv (GeV/c^2)", "Anzahl"}]
```