```
Plot[
    {2 \[Xi]^2 Exp[-2 \[Xi]^2], 4 \[Xi]^2 Exp[-2 \[Xi]^2], 0},
        {\[Xi], -2, 2},
    PlotLegends -> {"distinguishable", "bosons", "fermions"}]
```
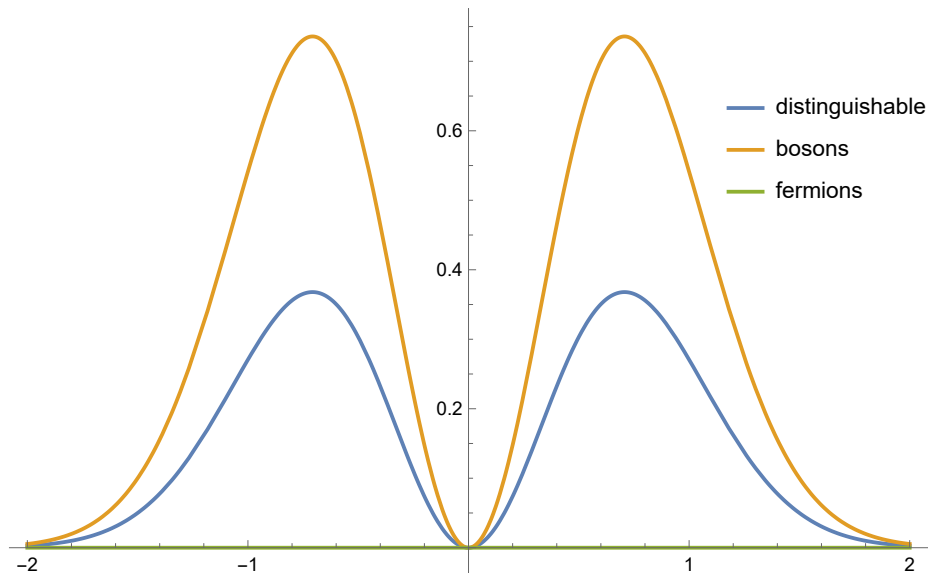

Figure 1: placeholder

```
plot1 = Plot3D[
    4 xi2^2 Exp[-xi1^2/2 - xi2^2/2], {xi1, -3, 3}, {xi2, -3, 3},
    AxesLabel -> {Subscript[\[Xi], 1], Subscript[\[Xi], 2],
    Superscript[Abs[Subscript[\[Psi], Row[{"(", Subscript[\[Xi],
        1], ", ", Subscript[\[Xi], 2], ")"}]]], 2]}, PlotStyle ->
        Opacity[0.5], Mesh -> None, PlotRange -> All];

plot2 = Plot3D[
    4 xi2^2 Exp[-xi1^2/2 - xi2^2/2] (xi1 + xi2)^2, {xi1, -3,
    3}, {xi2, -3, 3}, PlotStyle -> {Opacity[0.5], Red}, Mesh ->
        None, PlotRange -> All];

plot3 = Plot3D[
    4 xi2^2 Exp[-xi1^2/2 - xi2^2/2] (xi1 - xi2)^2, {xi1, -3,
    3}, {xi2, -3, 3}, PlotStyle -> {Opacity[0.5], Blue}, Mesh ->
        None, PlotRange -> All];

atDifferentPosition = Show[
    Legended[plot1, Placed[Style["distinguishable", FontColor ->
```

```
        Orange], {0.15, 0.8}]],
    Legended[plot2, Placed[Style["bosons", FontColor -> Red],
        {0.15, 0.8}]],
    Legended[plot3, Placed[Style["fermions", FontColor -> Blue],
        {0.15, 0.8}]],ViewPoint -> {2.7, -3.5, 2.5}]
```
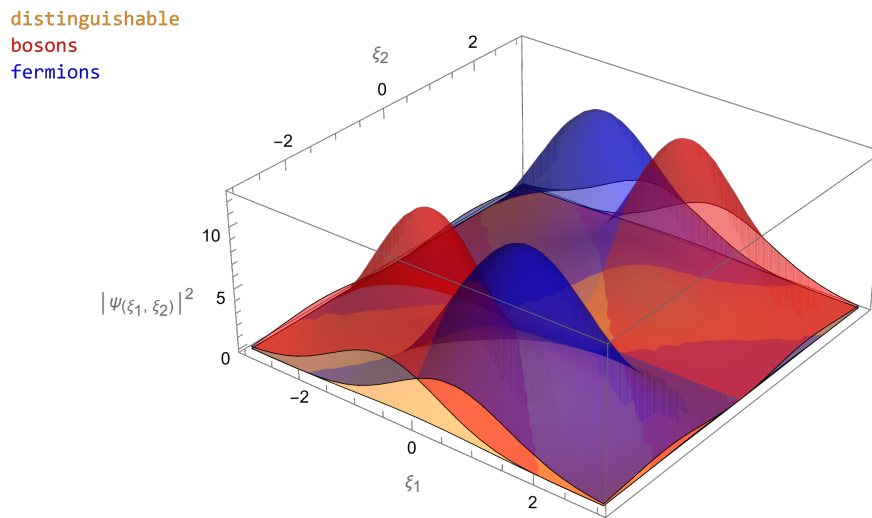

Figure 2: placeholder