The electronic states are about 1.8% and 0.56%, respectively, as expected from WF approximation.

\[
\begin{align*}
\sqrt{1 + u} & \approx \left( \frac{\gamma}{1} + u \right) \left( \frac{1}{\gamma} \right) = g \\
0 & = 0.87144766
\end{align*}
\]

The lowest values are

\[
\left( \frac{\gamma u}{\varepsilon} \right) G = G
\]

Then from equation 7.259)

\[
1850678891 \approx N \left( \frac{1}{y} - 1 \right) \int_0^1 = I
\]

where

\[
G \left( \frac{\gamma}{\varepsilon} \right) z = \Phi
\]

With a simple change of integration variables, becomes

\[
G \left( \frac{\gamma}{\varepsilon} \right) z = \Phi
\]

Where the turning points \( x = \Phi \) are solutions to

\[
x \int_0^1 \gamma z = x \int_0^1 \int_0^1 = \Phi
\]

The phase integral in equation 7.252) is

the phase WF integral for a quartic potential

This is greater than the true value by about 1%.

\[
\begin{align*}
\ldots & = 3.8383 \frac{1}{G} = G
\end{align*}
\]

or \( G = 5 \). The energy estimate is

\[
G \int_0^1 \frac{z}{\gamma} = \frac{z^2}{\gamma} = 0
\]

The best value of the parameter satisfies

\[
G \int_0^1 \frac{z}{\gamma} = \frac{z}{\gamma} = \left( \frac{G}{\gamma} \right) = \left( \frac{1}{\gamma} \right)
\]

\[
G \int_0^1 \frac{z}{\gamma} = \left( \frac{G}{\gamma} \right) = \left( \frac{1}{\gamma} \right)
\]

So here

Chapter VII: Approximation Methods for Bound States
\[
\langle z | \sum_{n=0}^{\infty} \frac{(\pi/2)^n}{n!} (\frac{\hbar}{\sqrt{2m_0}})^n \psi_n(z) \rangle = \psi(0, z, t) = \langle 0 | \psi(0, z, t) \rangle
\]

(a) Let us write a general state as

\[
\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]

(b) A general state is

\[
\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]

(c) \[H_{\text{eff}} = \left( \begin{array}{ccc} \frac{\hbar^2}{2m_0} & 0 & 0 \\ 0 & -\frac{\hbar^2}{2m_0} & 0 \\ 0 & 0 & -\frac{\hbar^2}{2m_0} \end{array} \right)\]

(d) There is no transition to other states such as

\[
\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]

(e) \[\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]

(f) \[\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]

(g) \[\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]

(h) \[\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]

(i) \[\langle z | = \left( \begin{array}{c} z \\ \langle 0 | \end{array} \right) = \langle 0 | T^{z}\rangle
\]
Phase Transition Point

When $N^2 > 1 \frac{1}{B}$

When $N^2 \leq 1$

Minimum $\sin \theta = -\frac{2N}{B}$

$N^2 \sin \theta = 2N - 4(N^2 + B \sin \theta - N^2)$

$\sin \theta = \frac{2N}{B}$

$\cos \theta = \frac{N^2}{B} - 4$<

$\sin \theta < \frac{N^2}{B}$

$\cos \theta = \frac{N^2}{B} - 4$

$S < 4 \times 2 + 2S < 5S$

Hawking radiation

$H = -4 \frac{\pi}{x} + 2Bx$

$\frac{2}{N} = S$

Let $S = \frac{2}{1}$ (addition of $N^2$ spins)

Total: $S = \frac{2}{1}$

Problem Solution: