Wave function is given by

$$\psi_n(x) = \psi_n(|\vec{p}|\alpha) \tag{1}$$

α is a parameter to be determined later.

$$\psi_n(x) = \sum_{k=0}^{n} a_{nk} x^{2k} e^{-x^2/2} \tag{2}$$

where

$$a_{nk} = \frac{(-1)^{k+n}}{k!}(2\pi\alpha)^{3/2}\left[\frac{2(n!)}{\Gamma(n+\frac{3}{2})}\right]^{\frac{1}{2}}\frac{\Gamma(n+\frac{3}{2})}{(n-k)!\Gamma(k+\frac{3}{2})} \tag{3}$$

A check if you coded these functions right will be to calculate

$$\int \frac{d^3\vec{p}}{(2\pi)^3}\psi_n(|\vec{p}|\alpha)\psi_m(|\vec{p}|\alpha) = \begin{cases} 1, \text{ if } m = n \\ 0, \text{ if } m \neq n \end{cases} \tag{4}$$

for any $\alpha > 0$.