

Recall that

$$|\mathbf{L}| = \sqrt{l(l+1)}\hbar, \quad l = 0, 1, 2, \dots, n-1$$

Let $n = 2$, $l = 1$, and

$$r = \frac{3n^2 - l(l+1)}{2}a_0 = 5a_0$$

Then by

$$\mathbf{B} = \frac{1}{4\pi\epsilon_0} \frac{e}{mc^2 r^3} \mathbf{L} \tag{7.60}$$

we have

$$|\mathbf{B}| \approx 0.14 \text{ tesla}$$

Note that for $n = 1$ we have $l = 0$ and $|\mathbf{B}| = 0$.