

TL 4-29 · Gold atom ground state

$$\begin{aligned}r_n &= \frac{n^2}{Z} a_0 \\&= \frac{(1^2)(0.0529 \text{ nm})}{79} \\&= 670 \text{ femtometers} \\&= 6.70 \times 10^{-13} \text{ m}\end{aligned}$$

This is about 100 times larger than
the gold nucleus size.