

PHYS 451 Quantum Mechanics II (Fall 2018)
Quiz #5

A particle of mass m moves in the potential

$$V(x) = \begin{cases} \gamma(x^2 - b^2), & -b < x < b \\ \infty, & |x| \geq b \end{cases}$$

Knowing that the energy of the particle is E and $E \gg \gamma b^2$, find the energy spacing between the level in which the particle sits and the next allowed energy level. Give your answer only in terms of the quantities mentioned above, i.e. γ , b , E , m and universal constants.