

1 Transition energies for Pb Li-like ion

Sapirstein & Cheng Sapirstein and Cheng (2011) transition energies

$$230.76(4) \text{ eV} = 2s_{1/2} - 2p_{1/2}$$

$$2642.17(4) \text{ eV} = 2s_{1/2} - 2p_{3/2}$$

2 Lifetimes for Pb Li-like ion

Johnson, Liu, and Sapirstein Johnson *et al.* (1996) lifetimes for Li-like Pb

$$\tau(2p_{1/2}) = 76.57 \text{ ps} \pm \text{error bar} < \text{fraction of a percent}$$

$$\tau(2p_{3/2}) = 42.23 \text{ fs} \pm \text{error bar} < \text{fraction of a percent}$$

3 Results of our variational calculations

$$232 \text{ eV} \pm \sim 1\% = 2s_{1/2} - 2p_{1/2}$$

$$2643 \text{ eV} \pm 0.1\% = 2s_{1/2} - 2p_{3/2}$$

$$\tau(2p_{1/2}) = 67\text{-}76 \text{ ps}$$

$$\tau(2p_{3/2}) = 42 \text{ fs} \pm 1\%$$