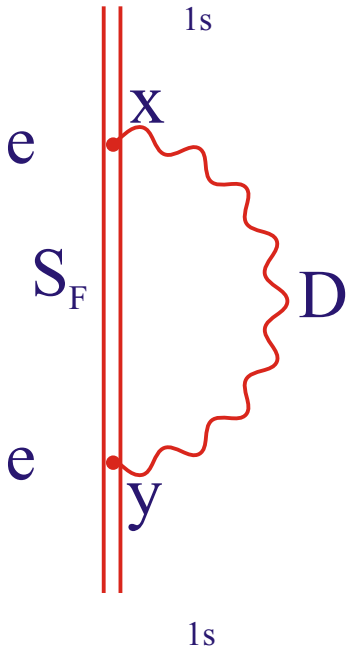
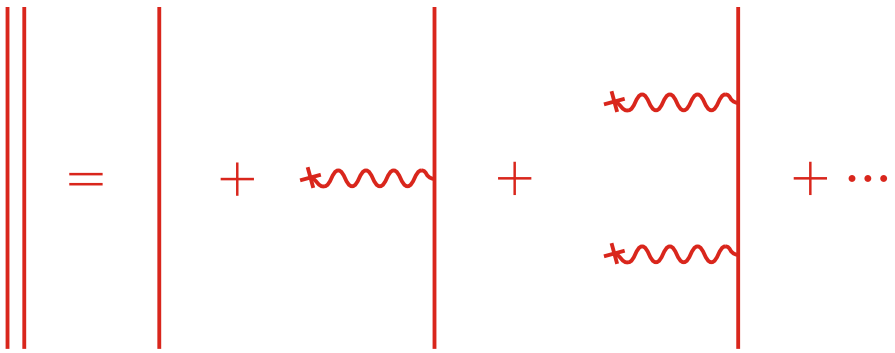
Self Energy



Expansion in Z



Energy shift

$$i \int dt\, d^3x\, d^3y\, \bar{\psi}_{1s}(y)\, S_F(x,y)\, \psi_{1s}(x) D(x,y)$$

$$- m \int d^3x\, \bar{\psi}_{1s}(x)\, \psi_{1s}(x)$$

Propagator

$$[\ (\hat{p} - eA^e) - m]_x\, S_F(x,y) = \delta(x-y)$$

$$E_{1s}(^{238}_{92}U) = 355.0432 \text{ eV}$$