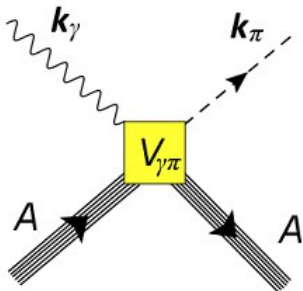




# Coherent $\pi^0$ photoproduction on spin and isospin zero nuclei

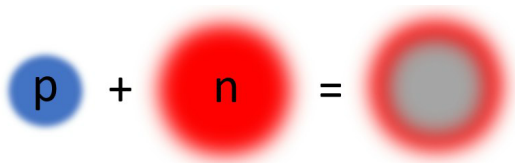


Slava Tsaran



# Motivation

Our knowledge of the shape of stable nuclei is presently incomplete

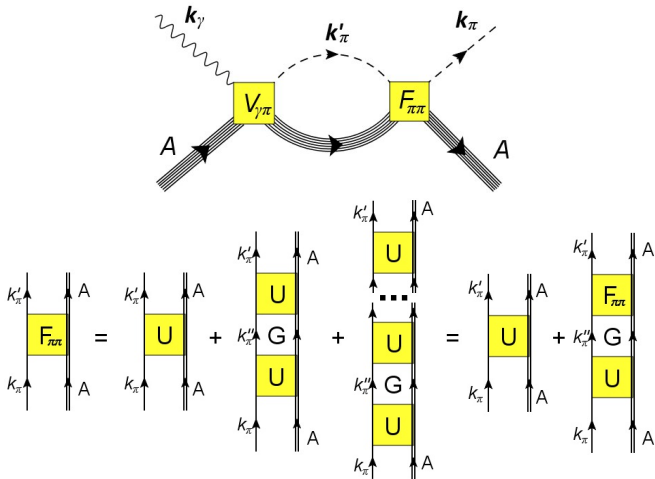


$$d\sigma^{\text{PWIA}}(\mathbf{A}(\gamma, \pi^0)\mathbf{A})/d\Omega \propto |\text{matter form factor}|^2$$

coherent  $\pi^0$  photoproduction is a tool to study neutron skin of medium-heavy and heavy nuclei

constraints on nuclear equation of states  
(extrapolation to neutron stars)

# In poster:



$^{12}\text{C}$  as test case