

Two-particle transfer

$\Delta L = 2$

X

multiplet $2^+ \otimes p_{3/2}(\pi)$ ${}^9\text{Li}$

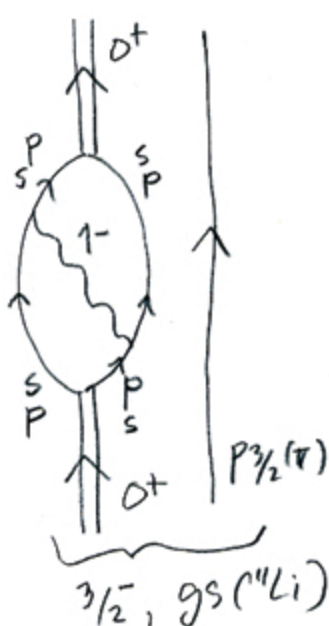
2^+

$p_{3/2}(\pi)$

${}^{11}\text{Li} (gs; 3/2^-)$

${}^{11}\text{Li} (p, t) {}^9\text{Li} (1/2^-)$

Question: would one be able to see the pigmy resonance (vibration of neutron halo against the charge core ${}^9\text{Li}$)



$(\Delta L = 1 \text{ ang. mom. transf.})$

X

multiplet $(1^- \otimes p_{3/2}(\pi))$

1^-

$p_{3/2}(\pi)$

${}^{11}\text{Li} (gs; 3/2^-)$

Of notice that the virtual, pigmy resonance phonon was emitted before the external field acted. Thus, it was the "real" dipole state (Now, do not make the same mistake as Einstein, Podolsky, and Rosen made (how an event can have effect backwards in time?).