

Abstract Submitted
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Radiative Neutron Capture on Carbon-14 and Electromagnetic Form Factors of Carbon-15¹ AKSHAY VAGHANI, LAKMA FERNANDO, GAUTAM RUPAK, Mississippi State University — We calculate the cross section for radiative neutron capture on carbon-14 using halo effective field theory (EFT). The contributions from the resonant and non-resonant interaction is considered. Interference between these leads to a cross section that deviates from a simple Breit-Wigner resonance form. We compare our results with direct capture and coulomb dissociation data. Finally we calculate the electromagnetic form factors of carbon-15 analytically to next-to-leading order (NLO). This result is also applicable to other *s*-wave spin- $\frac{1}{2}$ halo nuclei such as the ground state of beryllium-11 where we estimate the two-body contribution to the magnetic form factor at NLO.

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