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Leading E1 and M1 contributions to radiative neutron capture on lithium-7 LAKMA FERNANDO, Mississippi State University, RENATO HIGA, Kernfysisch Versneller Instituut, GAUTAM RUPAK, Mississippi State University — We provide a model-independent calculation of the radiative neutron capture on lithium-7 over an energy range where the contribution from the $3+$ resonance becomes important by using halo effective field theory. We describe how the couplings in the EFT Lagrangian are constrained from available data on low-lying bound and resonance states. We also present power counting arguments that establish a hierarchy for electromagnetic one- and two-body currents. Our model independent results quantify the current uncertainties in nuclear theory in the single particle approximation.

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