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Branching Ration of the radiative decay of the Sigma+(1385) DUSTIN KELLER, jlab — The CLAS g11 data set with proton target is used to extract measurements of the radiative decay $\Sigma^{*+} \to \Sigma^{+}\gamma$ using neutron detection. Though neutron detection is not standard in CLAS, neutral particles can be identified as clusters in the Electromagnetic Calorimeter that are not associated with any charged track reconstructed in the drift chambers. In the identification scheme used photons are neutral hits with a $\beta > 0.9$ while neutrons are hits with $\beta < 0.9$. Once the momentum and position resolution is understood for neutrons they can be used in kinematic fitting along with the other charged particles to obtain a missing mass dependent on the topological requirement. Decays of the Σ^{*+} that include a $\pi^0 \to \gamma + \gamma$ easily overwhelm the radiative decay signal so care is taken to reduce this background with kinematic constraints. First world data on a branching ratio for the radiative channel is presented.

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