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Cascade hyperon production in anti-kaon- and photon-induced reactions BENJAMIN JACKSON, KANZO NAKAYAMA, University of Georgia — In preparation for the forthcoming experiments on multi-strangeness baryon production at JLab and J-PARC, we analyze the general features of cascade production in both the anti-kaon- and photon-induced reactions. Particular attention is paid to the spin structure of the reaction amplitude for producing cascade resonances with the emphasis on identifying the spin observables required to determine the production amplitude as well as the spin-parity of the resonance. For the production of cascade resonances with spin higher than $1/2$, the spin-density-matrix formalism is proven to be particularly useful. The $\gamma N \rightarrow KK\Xi$ and $\bar{K}N \rightarrow K\Xi$ reactions are investigated within a simple model.

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