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Description and constraints of the back-end trigger of the Photon Detection System in DUNE

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The photon detection system has been of great importance at DUNE (Deep Underground Neutrino Experiment). It can improve the sensitivity of the instrument by adding photon traces of the events, it's possible to increase data on CC interactions, and get information of the less common NC scattering on Ar. Supernova events are the high-level constraint DUNE must achieve in terms of bandwidth because it is impossible to know the rate of neutrinos in such events. For this reason, we present a description of the triggering scheme on each of the channels of the photon detection system, the region of zero-delay digitization, and the bandwidth of the readout system, for further trigger schemes descriptions of higher level.

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