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Multiple elves reconstruction at the Pierre Auger Observatory

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The Pierre Auger Observatory, located in Malargüe (Argentina), is the largest facility (3000 km sq.) for the study of Ultra High Energy Cosmic Rays (E>0.3 EeV). The four sites of the Fluorescence Detector (FD) are continuously observing the night sky with moon fraction below 50% (13% duty cycle) with 100 ns time resolution and a spacial resolution below one degree. Since 2013, the observatory has implemented a dedicated trigger for the study of ELVES events, produced by lightning activity in Northern Argentina. A significant fraction of the ELVES events are double or even multiple, and their interpretation is quite controversial. This paper will report about the reconstruction and parametrization of such events using five years of data taken by the Observatory.