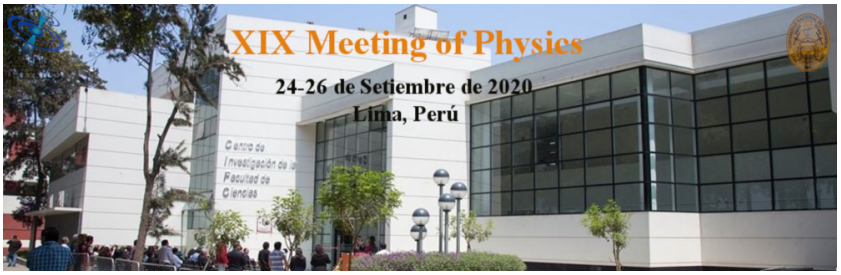

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Theoretical and simulation study of gamma intiated particle showers in the atmosphere

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In the present work, we carry out simulations to study the development of particle showers generated by photons as primary cosmic rays. We aim to determine whether or not it is possible to detect a Gamma Ray Burst (GRB) generated by an external source to the Earth with a Cherenkov detector placed at 4600 msnm.

We compare the results of the simulations with theoretical models that describe the behavior of the showers at the detector level. In addition, we will be able to establish the characteristics of a detector to be implemented in the future.

We used ARTI, the LAGO-CORSIKA simulation chain in order to generate the gamma initiated particle showers in the atmosphere to obtain the information of the secondaries that reach the site of study.

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