



Contribution ID : 61

Type : poster

## A Ray-Tracing simulation study for the dark matter new generation detector PICO-500

*Saturday, 26 September 2020 12:30 (10)*

Dark matter remains one of the biggest unresolved problems of physics. All we know is that it doesn't emit light and almost doesn't interact with visible matter, except gravitationally. Calculations suggest that it makes up 83% of the matter in the universe.

By developing and implementing a new generation detector: PICO-500, the PICO Collaboration aims to detect and study its properties. But, before constructing such a big and expensive detector, it's necessary to ensure that useful images can be obtained from the detector chamber in order to be analyzed.

To accomplish that, simulation studies are performed taking into account all the parameters involved in the experiment. Here we show a simulation study focused on the optical information obtained from the four photo cameras used in the experiment.

**Primary author(s) :** Mr MONTES PALMA, Jhoel Antony (Universidad Nacional de Ingenieria)

**Presenter(s) :** Mr MONTES PALMA, Jhoel Antony (Universidad Nacional de Ingenieria)

**Session Classification :** Poster session

**Track Classification :** Nuclear and Particles