

## Photon-Nucleus interaction and illusive nature of light

The nature is quite a mystery until and unless we recognize it. Around 95% of the universe is unrealized, which contains dark matter and dark energy. But the illusive nature of photons is a possible new hope to resolve the mystery of the dark sector. While photon interacts with matter (nuclei to bulky objects) create mass illusions and hide their energy. For this reason, photons do not carry any fixed rest mass. It shows zero and non-zero rest mass in certain circumstances, and this nature of light is a reason for wave-particle duality. This research exercise has been studied in recent years. However, this has not been done in the Quantum Field Theory's perspective; we need to move forward beyond the Standard Model. Hence, the interactions of the nucleus and photon might be changed by the era of Astrophysics and Cosmological throne.

### Section

Neutrino physics and nuclear astrophysics

**Primary author:** Dr GORAY, Mahendra (Central University of Odisha, Koraput, Odisha-763004, India)

**Presenter:** Dr GORAY, Mahendra (Central University of Odisha, Koraput, Odisha-763004, India)

**Session Classification:** Poster session