



Contribution ID: 255

Type: **Invited talk in a parallel session**

Interaction between electromagnetism and gravitation from unified geometric framework

Friday, 12 July 2024 17:00 (25 minutes)

An alternative formulation of classical electromagnetism relying on torsion in metrically flat spacetime in four dimensions is presented. Unification with gravitation is then obtained as a direct consequence of the extension to the more general case of metrically curved spacetime. A propagating equation for the electromagnetic potential is derived and discussed. In the same context, it is also shown that a second kind of photon can be predicted (which could be the so-called “Dark Photon”) and how it can be distinguished from the known photon in presence of gravitation.

Primary author: DJEGHLOUL, Nazim (Oran 1 University)

Presenter: DJEGHLOUL, Nazim (Oran 1 University)

Session Classification: Extended theories of electromagnetism and their impact on laboratory experiments and astrophysical observations

Track Classification: Theory and Experiments in Fundamental Physics: Extended theories of electromagnetism and their impact on laboratory experiments and astrophysical observations