

# 5<sup>th</sup> International Conference on Astronomy, Astrophysics and Space Science

## June 27-28, 2022 | Webinar

Volume: 10

### Unification of Gravity and Electromagnetism

#### **Mohammed A. El-Lakany**

Physics Department, Faculty of Science, Cairo University, Egypt

**G**ravity and electromagnetism are two sides of the same coin, which is the clue of this unification. gravity and electromagnetism are representing by two mathematical structures, symmetric and antisymmetric respectively. Einstein **gravitational field equation** is the symmetric mathematical structure. **Electrodynamics Lagrangian** is three parts, for electromagnetic field, Dirac field and interaction term. The definition of canonical energy momentum tensor was used for each term in Electrodynamics Lagrangian to construct the antisymmetric mathematical structure. Symmetric and antisymmetric **gravitational field** equations are two sides of the same Lagrangian.

#### **Biography**

Mohammed Ali Hassan Mohammed El-Lakany has done his B.Sc. Special Physics from Tanta University in 2004 and Diploma in Radiation Physics from Ain Shams University in 2006. He also completed his Preliminary M.Sc. in Theoretical Physics from Cairo University in 2009. He also published his research work in many journals and conferences. He is awarded with Certificate of Excellence in Reviewing in various journals.

[mohammed\\_ellakani@yahoo.com](mailto:mohammed_ellakani@yahoo.com)