Contribution ID: **846**   Type: **Talk in the parallel session**

Wave propagation in the anti-deSitter optical metric

Thursday, 8 July 2021 17:10 (20 minutes)

An optical medium can be represented by a Riemannian manifold $(\mathcal{B}, g)$ where $\mathcal{B}$ is consider to be the physical space and g the optical spatial metric. A geodesic flow in the unitary tangent bundle can be represented by a contact transformation in the space of contact elements. This fact, allows us to describe the wavefront evolution in an optical medium solely in terms of the contact transformation. This technique serves to construct wavefronts in optical media without directly solving the wave equation. In this talk, we will present the wave propagation in the anti-deSitter optical metric using this technique and visualize wavefronts as they refract while passing through interfaces in this particular geometry.

Primary authors: GARCÍA-PELÁEZ, David (Universidad Autónoma Metropolitana - Unidad Azcapotzalco); Dr LOPEZ-MONSALVO, Cesar Simon (Conacyt - Universidad Autonoma Metropolitana)

Presenters: GARCÍA-PELÁEZ, David (Universidad Autónoma Metropolitana - Unidad Azcapotzalco);   Dr LOPEZ-MONSALVO, Cesar Simon (Conacyt - Universidad Autonoma Metropolitana)

Session Classification: Mathematical Problems of Relativistic Physics: Classical and Quantum

Track Classification: Alternative Theories: Mathematical Problems of Relativistic Physics: Classical and Quantum