

# Geodesic completeness of effective null geodesics in regular space-times with non-linear electrodynamics

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We study the completeness of light trajectories in certain spherically symmetric regular geometries found in Palatini theories of gravity threaded by non-linear (electromagnetic) fields, which makes their propagation to happen along geodesics of an effective metric. Two types of geodesic restoration mechanisms are employed: by pushing the focal point to infinite affine distance, thus unreachable in finite time by any sets of geodesics, or by the presence of a defocusing surface associated to the development of a wormhole throat. We discuss several examples of such geometries to conclude the completeness of all such effective paths.

**Author:** GUERRERO, Merce (University of Aveiro)

**Presenter:** GUERRERO, Merce (University of Aveiro)