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SOLAR ELECTROMAGNETIC LENSING (SEL), GEOMETRY, AND ASTROPHYSICS FOR EXOPLANET IMAGING AND COMMUNICATION

Abstract

As one best method to image habitable exoplanets, telescopes at SEL or SGL can improve the precision of imaging of exoplanet surfaces by 1,000X+. Einstein predicted in 1936 that rays of light from the same direction that skirt the edges of the Sun would converge to a focal point approximately 542-550 AU, 14X farther away than pluto-sun distance but 1/2 distance from disk edge at 1000 AU.However, Solar Gravitational lensing (SGL) does not explain how light is bent by gravity around high mass bodies.

Solar Electromagnetic Lensing (SEL) field diffraction could be primary force bending charged photon particles around Stars.The force of electromagnetism is the dominant force on light and polarised atoms. Moreover, Madurowicz, 2022 outline orbital mechanics, alignment with planet, optical effects and algorithm.

This study outlines models, geometry, and equations to analyse and characterize the precise astronomical coordinates of focal point, mission orbital mechanics, stable manifolds, associated with SEL.

Photon flux near inner tip of the star's magnetosphere, around 18.5bn kilometers (123.66AU) from Earth, lights up as a spherical cavity also known as Einstein ring. If 20-90

In analysing SGL vs SEL, a local gradient associated with incoming photon flux, positvely correlated with charge state, velocity of photons, electron spin pairs, and elements. High charge state photon ions would be deflected at greater angles and low charge particles at lower altitudes. As star's sudden dip is within 10M km (.06AU), steepest dG gravity well would angularize light, instead of light at edge of stellar disk.

If most ionising particles are deflected around Heliopause and boundary shock layer around 100AU where 40X+ increase in plasma was measured by Voyager-1, 50

The significance of this work would remodel Einstein's predictions with current models based on gravity and suggests the 550 AU estimate could be far away from SEL point, where light converges on focal point. This research holds potential to recover billions of dollars of costs, materials, resources, and time associated with delivering systems to focal point.