Czajko, Jakub
On conjugate complex time. II: Equipotential effect of gravity retrodicts differential and predicts apparent anomalous rotation of the sun. (English) Zbl 1073.83515

Author’s summary: Equipotential effect of gravity (EEG), as opposed to radial interactions between bodies, is introduced here as the impact of a tangential potential. EEG causes frequency decrease that was observed in two specially devised and several indirect experiments. It depends on the distance that is measured along equipotential parts of trajectories and can explain an extraneous frequency decrease found in radio signals emitted by navigational positioning systems. It retrodicts the observed differential rotation of the sun without the assumed drag of the sun’s photosphere as its cause, and predicts apparent anomalous rotation of the sun, for from the shifts in spectra taken from the sun’s limb it should appear as if the sun rotates away faster than it does towards an observer on earth. The value predicted by it is over 10.56% excess over Einstein’s value of deflection of light near the sun and agrees with the 10–15% excess estimated from the data that was obtained in numerous, quite independent experiments.


Reviewer: Božidar D. Jovanović (Novi Sad)

MSC:
83D05 Relativistic gravitational theories other than Einstein’s, including asymmetric field theories
37N05 Dynamical systems in classical and celestial mechanics
37N20 Dynamical systems in other branches of physics (quantum mechanics, general relativity, laser physics)

Keywords:
binormal potential; tangential potential; limb darkening

Full Text: DOI

References:
[14] Laplace PS. Proof of the theorem, that the attraction force of a heavenly body could be so large, that light could not flow out of it. In: Hawking SW, Ellis GFR, editors. The large scale structure of space -- time. Cambridge: Cambridge University
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