Review of: "Geodesics as Equations of Motion"

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Potential competing interests: No potential competing interests to declare.

1. General relativity is based on diffeomorphism invariance: no physical quantity depends upon the coordinate system. A measurement in an experiment is set in a definite coordinate system, but the quantities being measured can be defined in any coordinate system.

2. After (2), theta=pi/2 does not follow from the Euler-Lagrange equations of motion. But it can be set to this value after a rotation of the coordinate system to align the plane of motion with the equator because geodesic motion occurs in a plane.

3. In Eq. (3) and (5), one can use the Killing vectors \partial_t and \partial_\phi to give a physical interpretation of k and h. Indeed, $E=-u_t \partial_t$ and J=$u_\phi \partial_\phi$ are conserved and give the energy and angular momentum along the z axis of the body.

Unfortunately, I didn't have time to finish the review. The conclusion is obviously wrong. The test of perihelion of Mercury is one of the foundational test of GR. I conclude that there are mistakes in the reasoning. I would advice the author to read the classic textbook on the topic such as Carroll “General Relativity” or read the reviews of Damour on the motion of bodies and compare his computations with theirs.