Review of: "Geodesics as Equations of Motion"

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I have made an earlier referee report of this paper, viewing it as quite mistaken for several reasons exposed there. None of these criticisms were addressed in the change from version 1 to version 2, so this judgement stands.

Finally I would like to point out a singularly absurd error in (16-17), where the expression

\[ \frac{1}{2} \left( \frac{GM}{c^2 r} \right)^2 \frac{c^2}{v^2} (1 - \epsilon^2) \]

is numerically evaluated. Note first that I do not believe this is obviously a good expression to evaluate, but it is what the author evaluates in going from (16) to (17). The author gets \(1.33 \cdot 10^{-2}\). Let us see: in SI units

\[
G = 6.67 \cdot 10^{-11} \quad M = 2 \cdot 10^{30} \quad r = 5.8 \cdot 10^{10}
\]

and of course

\[
c = 3 \cdot 10^8 \quad v = 4.7 \cdot 10^4 \quad \epsilon = 0.2
\]

So the term \(\left( \frac{GM}{c^2 r} \right)^2\) has the value

\[
[6.67 \cdot 2/(5.8 \cdot 9)]^2 \cdot 10^{-14} = 6.5 \cdot 10^{-16}
\]

whereas \(c^2/v^2 = (9/4.7^2) \cdot 10^8 = 4.1 \cdot 10^7\).

Up to the irrelevant terms \(-1/2\) and \(1 - \epsilon^2\), the expression is the product of the two quantities, that is

\[
6.5 \cdot 4.1 \cdot 10^{-9} = 2.7 \cdot 10^{-8}
\]

Which is rather off from \(-1.33 \cdot 10^{-2}\).