RESPONSE TO REFEREE 2

March. 2024

- 1. We have modified Sec. 3.3 according to the referee's wishes. We now do the change of coordinates to an arbitrary set of coordinates, and only specialise to spherical coordinates at the end.
- 2. We thank the referee for pointing this out and have changed the appropriate part according to the wishes of the referee.

 In addition, we have added the word "spatial" on the 8th line in Sec. A.2
- 4. We thank the referee for pointing out the confusion with the references. However, we disagree that Ref. [46] should be cited at the place suggested by the referee. That paper concerns the Schrödinger–Newton equation for a single particle, which is not the normal limit of QM+GR but a nonlinear modification. We therefore prefer not to cite that paper in this context. The reference in question still remains and now appears as Ref. [45].
- 7. As the referee suggests, we choose to ignore this point.

as requested by the referee.