Report on the manuscript
Cauchy Evolution of Asymptotically Global AdS Spacetimes with No Symmetries
by Hans Bantilan, Pau Figueras, and Lorenzo Rossi

The authors discuss the Cauchy evolutions of asymptotically global AdS spacetimes with no imposed symmetries, employing a numerical scheme based on the generalized harmonic form of the Einstein equations. This is an excellent work and I have no doubts that it merits publication in *Physical Review D*. Still, I have one suggestion that in my opinion might clarify the contnent of Sections II and III: on page 3 the authors define the compatification scale ℓ and set this scale to one but at this stage it is not clear from the text if this compactification scale is related to the AdS radius L (see (II.4)) or not. The information that the AdS radis L is also set to one (thus, in fact, $\ell = L$) can be found not earlier then in Sec. VI. In my opinion this fact should be explicitely highlited already in Sec. II because it probably has signifcant consequences. In particular, I would expect the formulas (III.21-III.24) (and probably also (III.11-III.20)) to be valid only under this simplifying assumption (i.e. $\ell = L$), since in this case the metric (II.6) simplifies significantly (it takes a diagonal form), and (III.21-III.24) can be indeed easily obtained. On the other hand I was unable to reproduce (III.21-III.24) for the general $\ell \neq L$ case. Thus, I would like to know whether it is my failure or the authors do assume $\ell = L$ implicitly in their derivations. Similarily, as far as I understand, (III.8) is simply $\sim \hat{g}^{\rho\sigma}\partial_\rho\partial_\sigma\bar{g}_{(1)\mu\nu}$ thus, for a general (off-diagonal) form of (II.6), I would expect mixed derivatives to be present in (III.8). Similarily, I would imagine that coding the formulas containing the inverse of $g_{\mu\nu} = \hat{g}_{\mu\nu} + h_{\mu\nu}$ would be a nightmare for the general case $\ell \neq L$. If I am correct about the assumption $\ell = L$ being used, I would urge the authors to state it explicitly and to simplify the form of (II.6) accordingly.

Apart from the comment above I have just 2 minor remarks:

1. It would be nice to have correct diacritic in the names of the authors citetd in the refernces. In particular, in the case of [41] it can be achieved with Jalmuzna → `Ja\l mu\.zna` (to produce Jałmużna)

2. I find the sentence *we see that the scalar field starts propagating towards the AdS boundary, but a significant portion of it is attracted back towards the origin* (p.12/13) a bit misleading: the authors use time-symmetric intial data thus they naturally contain both outgoing and ingoing components.

To summarize, the manuscript reports on excellent research project and I am looking forward to seeing it published in PRD.