

The paper is a summary of the discussions held at the Nordita Program “?Quantum Gravity: from gravitational effective field theories to ultraviolet complete approaches”, where different quantum gravity communities engaged in dialog to one another. The basic structure of the document is clear and provides an invaluable resource for Quantum Gravity researchers that often are focused in their own approach and are ignorant about others. I fully agree with referee 1 and undoubtedly recommend publication.

After reading all (amazingly detailed) panel summaries, which clarify all the positions discussed clearly, there is one idea that I got the impression was not very much represented in the meeting: holography. This has been a fundamental corner for many in our field and has led to so much progress on our understanding of Quantum Gravity in the last two decades, so it is unfortunate is not often mentioned in the discussions (only one panelist in one panel makes of it a central role, at least judging from the transcript), and only plays a somewhat central role in a couple of essays. Perhaps this is due to the specific choice of panelists/participants? It would be great if future editions (which I hope are coming) of this wonderful interdisciplinary program can take into account a stronger holographic component.

Next are some comments regarding the way the panel discussions are phrased/reported, or questions for clarification.

- The discussion in panel 2.3 did not clarify what it is meant by the spacetime metric being “fundamental” versus not. To the point in page 12 about gravitons being strongly interacting in the IR, it is perhaps interesting and worth mentioning for context that this is not the case in higher dimensions, where IR divergences at low derivatives are absent.
- In Section 2.4, page 13, I wonder if a rewriting “for overconfident claims made decades ago by ST pioneers” could be rephrased in a less aggressive way without compromising the accuracy of the description of the discussion, e.g. “for any grandiose claims that some ST pioneers might have made decades ago”. I think this rewording conveys the same message and I wonder if the original one would really be supported by e.g. a majority of participants of the workshop. Anyway, I for one think that someone being optimistic about their research is a positive trait! and therefore the text could use a more neutral language. That being said, if the panelists really agreed on the literal wording in the text, then I don’t see reason to change it.
- Also in this section, page 14, regarding black hole entropy it is said that it is ‘ a

task where ST claims success'. Why not say "succeeds"? No discussion on the topic is mentioned. I suggest to change it like this or detail the kind of doubts voiced by panelists on this, if any.

- Page 15 "while it is not proven that ST exists non-perturbatively, some evidence exists in some superselection sectors". I think that characterizing all of stringy holography and quantum gravity in AdS (I assume this is what is meant by reference [55]) as "some evidence in some superselection sectors" is not really accurate (see my point above). It is a field of QG research in itself, and the evidence for having a non-perturbative definition for string theory via CFT is overwhelming. That's how I'd describe it; not saying that the authors have to describe it like that, but surely there's a middle ground.
- Page 15: Calling Swampland a "stringy fever dream" might not be the most respectful phrasing for the young colleagues working in this field. Perhaps rewording to "Swampland: Stringy feature or universal framework" or something like that?
- Section 2.7 might have benefited from contributions of the growing community working on "cosmological correlators", particularly on the S-matrix and cosmology topic of discussion, since there has been much recent progress in the questions addressed there.
- Page 21: "By contrast, in ASQG and other theories, the scale is believed to be the Planck scale. ". Perhaps a short sentence or two could be added explaining why is this expected? Couldn't there be other states below planck in ASQG?
- Page 22: Would it be possible to briefly comment on whether there was any reaction to Brandenberger's statement that inflation may "rest in peace"? This would be hugely controversial statement in large swaths of the community, so it is interesting to learn whether anybody among the panel/participants disagreed or everybody acquiesced with the statement.
- Page 23: Did the panel introduce first why, if there is a breakdown of Lorentz symmetry, it should be related to gravity? Couldn't it be related to some other sector, orthogonal to the QG question? Even if it is common knowledge, a line or two at the beginning regarding this to provide context would be very helpful.

On top of the above, I got two typos:

- Page 5: “Different schools of thought”: thought should be singular
- Page 11: “One clear message which came out from the discussion is that there is no agreement on whether spacetime is fundamental, and on the fact that there is no unique way to make spacetime emergent.” This sentence is weird; seems to say that there is no agreement “on the fact”. But a fact is something not subject to disagreement. Maybe replace fact by question?