RESPONSE TO REFEREE REPORT
"TWISTED ELEVEN-DIMENSIONAL SUPERGRAVITY"

We want to express our deep gratitude to the referee for the report on our manuscript. We believe that the referee's suggestions greatly improved the readability and clarity of our results and we hope that shows in the revised work.

Below, we summarize the edits that have been made to address the referee's suggestions.

Edits.

(1) The referee asked why only the extension corresponding to the M2 brane is discussed in section 3.2. We have added a remark to address this at the end of section 3.

(2) The referee requested elaboration on page 24, in the proof of proposition 3.6, in showing that the bracket between odd elements in the Q-twisted M2 brane algebra is compatible with the bracket induced by the cubic term in the action. We have added a paragraph in the proof of proposition 3.6 to address this.

Clarifications.

(1) The referee requested clarifications about the intuition and motivation which led us to study the model in the manuscript. This is stated both in the abstract and in the paragraph preceding Conjecture 0.1 on page 3.

(2) The referee suggested that we formulate a conjecture relating $E(5|10)$ to shifted truncated Yangians. Though a detailed conjecture in this direction is outside of the scope of the submitted manuscript, we wish to point out that steps in this direction appear in follow-up work by the first and last author (see the introduction of [**RW22**]). There, the authors amass character-level evidence for the claim that the M5 brane algebra in the minimal twist admits a deformation to the $\mathcal{W}_{1+\infty}$ algebra.

References

[1] S. Raghavendran and B. Williams, *A holographic approach to the six-dimensional superconformal index*, arXiv:2210.07910, 2022.