

Sphere of arbitrarily polarized exceptional points with a single planar metasurface

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Version 0:

Reviewer comments:

Reviewer #3

(Remarks to the Author)

When the authors submitted their first revision to Nature, this reviewer assessed that the authors had diligently addressed the questions and concerns raised. However, I pointed out an ethical issue that led to the rejection, as the authors intentionally did not cite a recently published paper [1] (referred to as [45] in the revised manuscript) that contained a similar claim. Of course, even if the [1] paper was under review elsewhere while the authors were preparing their manuscript, it would have been appropriate to upload the paper to arXiv or Research Square if they were working on similar or advanced content.

Based on the reply report to Reviewer #2, I believe that the authors have responded diligently, particularly in clearly explaining the differences between their work and the [1] paper, and have appropriately emphasized these distinctions in the manuscript. Therefore, I believe that this manuscript deserves to be accepted in Nature Communications.

However, I think the current title of the paper, "Sphere of Arbitrarily Polarized Exceptional Points," needs to be revised. While the authors may intend to convey that they can implement all arbitrary polarization states as EPs on the Poincaré sphere, the current title may cause misunderstanding. Since Nature Communications is a multidisciplinary journal, the title should be revised to one that can be easily understood by readers from different fields.

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Reply report to reviewer #3

Comment 3.1: *When the authors submitted their first revision to Nature, this reviewer assessed that the authors had diligently addressed the questions and concerns raised. However, I pointed out an ethical issue that led to the rejection, as the authors intentionally did not cite a recently published paper [1] (referred to as [45] in the revised manuscript) that contained a similar claim. Of course, even if the [1] paper was under review elsewhere while the authors were preparing their manuscript, it would have been appropriate to upload the paper to arXiv or Research Square if they were working on similar or advanced content.*

Response 3.1: Thank you for your review and feedback on our manuscript. We take the ethical concern you raised regarding the citation of reference [1] very seriously, and we would like to provide further clarification on this matter. Reference [1], also from our group, was still under review when we submitted our first draft. We did not intend to ignore or avoid any relevant research results. In future work, we will pay more attention to related concerns and upload the paper to arXiv or Research Square when possible.

Comment 3.2: *Based on the reply report to Reviewer #2, I believe that the authors have responded diligently, particularly in clearly explaining the differences between their work and the [1] paper, and have appropriately emphasized these distinctions in the manuscript. Therefore, I believe that this manuscript deserves to be accepted in Nature Communications.*

Response 3.2: We are pleased to see your positive feedback on our response and thank you for considering our manuscript to be suitable for publication.

Comment 3.3: *However, I think the current title of the paper, "Sphere of Arbitrarily Polarized Exceptional Points," needs to be revised. While the authors may intend to convey that they can implement all arbitrary polarization states as EPs on the Poincaré sphere, the current title may cause misunderstanding. Since Nature Communications is a multidisciplinary journal, the title should be revised to one that can be easily understood by readers from different fields.*

Response 3.3: We fully agree with your suggestion regarding the title. Thus, we revised the title to “*Sphere of arbitrarily polarized exceptional points with a single planar metasurface*” to better reflect the manuscript’s content for a broader audience.

Therefore, we have successfully addressed all the comments by reviewer #3.

References

[1] Yang Z, Huang P S, Lin Y T, et al. Creating pairs of exceptional points for arbitrary polarization control: asymmetric vectorial wavefront modulation. Nature communications, 15, 232 (2024).