

Magnetic geometry induced quantum geometry and nonlinear transports

Corresponding Author: Professor Qihang Liu

This manuscript has been previously reviewed at another journal. This document only contains information relating to versions considered at Nature Communications.

This file contains all reviewer reports in order by version, followed by all author rebuttals in order by version.

Version 1:

Reviewer comments:

Reviewer #2

(Remarks to the Author)

The authors have carefully addressed all the comments from both referees and have made the necessary revisions to the manuscript. Their responses effectively clarify the points raised in my review.

While the authors emphasize the significance of establishing a database of experimentally realizable antiferromagnets with geometric nonlinear transport in their response letter, in my opinion, the key achievement of this work is the connection between real-space magnetic geometry and momentum-space quantum geometry. Building on this, their proposal of dual geometry nonlinear transport in the room-temperature antiferromagnet CrSe is particularly intriguing and could be valuable to the research community.

Given these important findings, I believe the manuscript meets the standards of Nature Communications and am pleased to recommend its publication.

(Remarks on code availability)

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