

Overview of contacted submissions and the listed AI statements:

Classical analysis

Monday Sep 14, CA: 17 submissions

[arXiv:2609.13105](#) ChatGPT 5.6 Sol was instrumental in the production process of this manuscript. Once interlacing was discovered for curves in our previous work [CDW26], we worked on its analogs in other contexts. One of these attempts led to the first manifestation of the forbidden pattern phenomenon for certain surfaces that resemble perturbed cones. The key superorthogonality emerged as the necessary tool to take advantage of the restricted number of permissible patterns for the cone. ChatGPT Pro was also used to create pictures and to polish the paper.

[arXiv:2609.13030](#) no statement

[arXiv:2609.13023](#) no statement

[arXiv:2609.12844](#) The authors acknowledge the use of AI tools during the exploratory stage of this project. All mathematical arguments and proofs in the final manuscript were checked and written by the authors.

[arXiv:2609.12722](#) The authors declare that no artificial intelligence (AI) tools or automated proof assistants were used in the generation, drafting, and verification of this manuscript

[arXiv:2609.12719](#) no statement

[arXiv:2609.12717](#) no statement

[arXiv:2609.12587](#) no statement

[arXiv:2609.12566](#) The development of this approach benefited in part from mathematical suggestions generated in discussions with ChatGPT. The authors take responsibility for the mathematical statements and proofs.

[arXiv:2609.12440](#) no statement

[arXiv:2609.12361](#) no statement

[arXiv:2609.12283](#) no statement

[arXiv:2609.12226](#) no statement

[arXiv:2609.12117](#) The authors used OpenAI's GPT-5.6 Sol as an assistive tool for refinement of the exposition and checks of algebraic consistency. The underlying proof strategies were developed by the authors, who take full responsibility for the content of the manuscript.

[arXiv:2609.12859](#) During the preparation of this manuscript, the author used OpenAI's ChatGPT 5.6 Plus as a tool for literature search, proofreading, mathematical discussion, and feedback on correctness and possible minor improvements. The main use for ChatGPT was to assist in the special function arguments used to prove the required properties of the norm of $T_{n,m}$, identifying the Volterra operator with the desired properties, and suggesting using Fekete's lemma in Theorem 3.1 to improve an earlier version of the result. In particular, the idea to consider the operator $T_{n,m}$ and varying n and m to get the desired norm inequality is the author's own. The manuscript has been written and verified by the author, and the author takes full responsibility for its content.

[arXiv:2609.12755](#) AI tools (DeepSeek) were used during the preparation of the paper to assist with figure drawing and grammar checking, locating relevant references, and improving the exposition. All mathematical statements, proofs, and conclusions were developed and verified by the authors.

[arXiv:2609.12714](#) Generative artificial intelligence was used in developing the arguments in Section 4.

Tuesday Sep 15, CA: 22 submissions

[arXiv:2609.15610](#) no statement

[arXiv:2609.15560](#) no statement

[arXiv:2609.15514](#) no statement

[arXiv:2609.15473](#) no statement, contacted authors yesterday for other paper

[arXiv:2609.15155](#) no statement

[arXiv:2609.14910](#) no statement

[arXiv:2609.14769](#) no statement

[arXiv:2609.14584](#) The authors acknowledge the use of AI tools during the exploratory stage of this project. All mathematical arguments and proofs in the final manuscript were checked and written by the authors.

[arXiv:2609.14489](#) Claude (Anthropic), run through Claude Code, was used at several stages of this work, and the record of that use is the commit history of the repository from which this paper is built. It was used as a critic while the argument was taking shape: statements were put to it and its objections answered, which is how the hypotheses of Theorem 4.4 were weakened to their present form and how a gap in an earlier version of the argument came to light. It was used to write and run the scripts behind the figure and the numerical checks reported here, all of which are included with the paper. And it was used editorially, on the exposition and on the reference list. Every mathematical statement was checked by me, and I am responsible for the mathematics and for the paper as it stands.

[arXiv:2609.14430](#) No AI tools were employed to obtain the above result.

[arXiv:2609.14298](#) no statement

[arXiv:2609.14023](#) no statement

[arXiv:2609.14008](#) The author used ChatGPT (OpenAI) to assist in developing the construction and proof and in preparing the manuscript. All arguments have been independently verified by the author, who takes full responsibility for the results and exposition.

[arXiv:2609.13891](#) The authors acknowledge the use of LLM models in collecting relevant references for exponential sums as well as helping polish the paper.

[arXiv:2609.13313](#) no statement, no author information

[arXiv:2609.15767](#) no statement

[arXiv:2609.15374](#) no statement

[arXiv:2609.15071](#) no statement

[arXiv:2609.14909](#) Generative-AI tools were used for exploratory calculations, consistency checks, organization of arguments, and drafting and editorial assistance. All mathematical statements, proofs, and citations were independently checked by the authors, who take full responsibility for the manuscript.

[arXiv:2609.14206](#) Anthropic Claude Opus 5.0 played a crucial role in turning my conjectures into theorems: to say that the AI model merely “assisted” would be an understatement.

[arXiv:2609.13573](#) We have used Grok 4.6, built by xAI, to accelerate the write-up and to check for correctness or typos. All the ideas, models and the strategy of proofs are ours.

[arXiv:2609.12238](#) The author used ChatGPT to assist with exposition and technical calculations, mostly to simplify earlier versions of the proof of Theorem 5.4. Also, while the author was seeking a discontinuous martingale that could reproduce, in norm, the behavior arising in Davis’s stopping-time problem [Dav76], an AI-assisted literature search identified parabolic Azéma martingales, previously unknown to the author. This helped prove the sharpness. The formulation of the results and the proof strategies are solely due to the author and draw inspiration from previous work in [DW26]. All AI assisted material was carefully checked by the author, who takes full responsibility for the contents of the paper.

I would like to thank José Conde Alonso and Guillermo Rey for organizing the summer school “New Trends in Harmonic Analysis,” which I attended in Madrid in May 2026. I believe the school has already had, and will continue to have, a tremendous impact on our community (greater, I like to think, than that of AI) and in particular on this project.

Wednesday 15 Sept, CA: 11 submissions

[arXiv:2609.17466](#) During the development of this work, the authors used ChatGPT (OpenAI, GPT-5.5, 5.6) to explore possible proof strategies. All mathematical statements, proofs, and references appearing in the final manuscript were independently checked and verified by the authors, who take full responsibility for their correctness.

[arXiv:2609.17246](#) An LLM was used for minor grammar corrections, the TikZ code of the figures, as well as the idea to use (and the proof of) Lemma 2.4.

[arXiv:2609.17054](#) ChatGPT were used for language editing and proofreading. All mathematical results, arguments, proofs, and conclusions were developed, verified, and approved by the authors.

[arXiv:2609.16674](#) no statement

[arXiv:2609.16426](#) no statement

[arXiv:2609.16281](#) no statement

[arXiv:2609.17356](#) The authors use AI (Chatgpt) to assist the computations and language organization

[arXiv:2609.17351](#) At an early exploratory stage of this project, together with Lukas Niebel, we used OpenAI's GPT-5.6 Sol Ultra, produced what appeared to be a complicated counterexample with a computer-assisted proof, following Mooney's approach. The authors did not verify this output and did not use any arguments, ideas, or mathematical reasoning generated by the model in the subsequent mathematical analysis. The indication that a counterexample might exist, however, provided the initial motivation for the present project.

[arXiv:2609.17045](#) no statement

[arXiv:2609.16481](#) no statement

[arXiv:2609.16377](#) no statement

Thursday 17/9: CA, 14 submissions

[arXiv:2609.18818](#) no statement

[arXiv:2609.18613](#) no statement

[arXiv:2609.18491](#) I would like to thank Jean Bourgain for encouraging me to work on this problem. I first learned of it from his paper [3] while a graduate student and have been actively thinking about it ever since. When I first met Jean at the Institute for Advanced Study, I asked him about the problem. Although he never explicitly expressed an opinion on whether the answer was positive or negative, our conversations left me with the impression that he was optimistic about a positive answer. He suggested that ideas from the then-recent solution of the Kadison–Singer problem [11] might be useful in this direction.

I worked extensively on this project using ChatGPT as a proof assistant and sounding board. Over the course of hundreds of prompts and interactions, I developed a much more complicated counterexample based on Walsh series and the hypergraph container results of Saxton and Thomason [14]. After further reflection on that example, I found the approach presented here, which is much simpler and more intuitive.

[arXiv:2609.18426](#) A large language model was used for mathematical discussions and assistance with the Lean formalization. The work began with an unsuccessful attempt by the author to prove nonexistence of an exponential Riesz basis on the disk, following a strategy inspired by [15]. During these discussions, the model corrected the failed approach, leading to a proof based on representation theory. The author subsequently simplified that proof into the present form.

The Lean formalization is available at the GitHub repository: RieszEuclidean. The repository contains the proof blueprint, the Lean sources, a standalone proof file, and the verification records. All blueprint obligations are proved, and the public statements have been checked by Comparator and Lean's kernel.

[arXiv:2609.18255](#) no statement, no contact details but found online

[arXiv:2609.19064](#) no statement

[arXiv:2609.19052](#) The authors acknowledge the use of AI tools during the exploratory stage of this project. All mathematical arguments and proofs in the final manuscript were checked and written by the authors.

[arXiv:2609.19029](#) The authors acknowledge the use of AI tools during the exploratory stage of this project. All mathematical arguments and proofs in the final manuscript were checked and written by the authors.

[arXiv:2609.19020](#) The authors acknowledge the use of AI tools during the exploratory stage of this project. All mathematical arguments and proofs in the final manuscript were checked and written by the authors.

The previous three papers have a large subset of common authors, so I contacted them in one email.

[arXiv:2609.18855](#) no statement

[arXiv:2609.18689](#) no statement

[arXiv:2609.18670](#) The use of LLM models are central to the current work, many rounds of chats are involved, and we believe the LLM models are impacted in particular by the work of [HK24, SY26, GLY23, CDW26], but it is fair to say the first proof is given by LLM model, and that proof clearly is building upon [GLY23]. It is also fair to say the first AI generated proof is not very readable from our perspective. We have communicated an AI generated version to several experts in the field. The current version is not an AI generated work, efforts has been made to digest, verify, and organize the material. We mention that the primary goal of the research was to prove L6 sharp Srichartz, but it turns out, also assisted by LLM models, this proof can be generalized to many other important problems, including the following: [several mathematical statements follow]

no contact details present

[arXiv:2609.18290](#) no statement

[arXiv:2609.17712](#) The authors used the large language models Claude (Anthropic) and ChatGPT (OpenAI) during the preparation of this manuscript, for early drafting of expository passages, editing, and language polishing. All mathematical content, proofs, and references were conceived, checked, and are the sole responsibility of the authors.

Friday 18/9, CA: 12 submissions

[arXiv:2609.20805](#) very long statement (see paper) + explanation of Lean formalization

[arXiv:2609.20531](#) ChatGPT and Codex by OpenAI were used to explore and improve proof strategies for this paper. More specifically: (see paper). GPT-5.5, GPT-5.6 and GPT-6 were furthermore used to check and improve arguments, to revise parts of the exposition, and to search for relevant references. All mathematical arguments in their final form were written and verified by the authors, who take full responsibility for all claims and arguments in the paper.

[arXiv:2609.20108](#) no statement

[arXiv:2609.19691](#) no statement

[arXiv:2609.19473](#) AI-assisted tools, including ChatGPT, were used for literature searches, consistency and editorial checks, and in developing a lower-bound example. The authors are responsible for all mathematical arguments, references, and the final text

[arXiv:2609.19411](#) The authors used OpenAI Codex during the preparation of the manuscript in order to carry out mathematical consistency checks, verify intermediate steps, and for the purpose of editorial proofreading. They reviewed all of the suggestions that they received in this process independently, and they take full responsibility for the mathematical content of the final text.

[arXiv:2609.19186](#) All generalizations and other additional mathematical developments in Appendix A, including their arguments and proofs, were developed and written entirely online by ChatGPT from the original manuscript, without any human intervention in their mathematical

development, during a video call with Renato Álvarez-Nodarse on 15 September 2026. The model used was OpenAI's gpt-6-astra.

ChatGPT was not used in any way to generate the mathematical arguments in Sections 1–13, including the proof of Theorem 1.4. At the author's request, the mathematical statements and proofs in these sections retain their original form to distinguish the original contribution clearly from the generalizations and all other additional mathematical material, which are collected exclusively in Appendix A. ChatGPT independently carried out the entire editorial integration and typesetting of the Appendix and was explicitly instructed to preserve the style of the original article. The mathematical content of the Appendix was reviewed for correctness without altering a single formula. The entire process of mathematical verification, editorial integration, and typesetting took approximately 14 minutes, measured from the request to revise the source file, with the mathematical proof itself having an estimated prorated cost of approximately €0.46 under the subscription used.

[arXiv:2609.20361](#) no statement

[arXiv:2609.19597](#) no statement

[arXiv:2609.19481](#) no statement

[arXiv:2609.19309](#) no statement

[arXiv:2609.19299](#) no statement

Representation theory

Monday Sep 14, RT: 9 submissions

[arXiv:2609.12385](#) no statement

[arXiv:2609.12134](#) no statement

[arXiv:2609.12118](#) The author used ChatGPT extensively during the preparation of this work. He would like to thank the model GPT-5.6 Sol for generating an earlier draft of this paper and collaborating with the author throughout the revision process.

[arXiv:2609.13119](#) no statement

[arXiv:2609.12895](#) no statement

[arXiv:2609.12760](#) no statement

[arXiv:2609.12706](#) no statement

[arXiv:2609.12414](#) no statement

[arXiv:2609.12326](#) no statement

Tuesday Sep 15, RT: 34 submissions

[arXiv:2609.15971](#) no statement

[arXiv:2609.15954](#) We made use of LLMs in developing and checking proofs for this paper to great effect. Their assistance substantially accelerated the project, allowing us to complete in weeks work that would normally have taken months. The AI models we used were: Gemini 3.1 Pro, Fable 5 (for the few days it was available to us), Opus 5, and ChatGPT 5.6 Sol (and 6 Astra for a few days). With the exception of the idea of considering the space $Z\pi$, which was suggested by Fable3, all key ideas in this paper were human-generated, from overarching philosophies, such as the consideration of coherent sheaves on projective spaces and the construction of the geometric monoidal product using concatenation, to technical philosophies, such as the construction of sheaves such as bP from reverse-engineering the sl_2 -action and the construction of the KLR sheaf inside the endomorphism sheaf $\text{End}(\pi^* bP)$ as the subsheaf preserving $\pi^* bQ$. The proofs with nontrivial AI input are the proofs of Proposition 8.4 and Lemma 10.9. Proposition 13.2 was also originally written to only handle what is needed for this paper; we fed this argument into AI and asked it to generalize it as much as possible, and the resulting proof it suggested is what is included here. Notably, the only nontrivial AI input in that proof was the suggestion to use Tag 01PQ from the Stacks Project; the key idea of translating by elements of the group and

observing the connection with the global sections is due to us. We are, of course, solely responsible for the correctness of the paper, and all text in the paper is human-generated.

[arXiv:2609.15927](#) The author used OpenAI's ChatGPT, primarily with the GPT-5.6 Sol model, as an AI assistant throughout this work. It assisted with the development of mathematical ideas and proof strategies and with the formulation and verification of arguments. It was also used in drafting and organizing the manuscript and its TEX source. The author reviewed and edited the resulting material and assumes full responsibility for the content of this paper, including any remaining errors.

[arXiv:2609.15874](#) no statement

[arXiv:2609.15729](#) AI was not used to produce any results in this paper or write any piece of this paper.

[arXiv:2609.15244](#) no statement

[arXiv:2609.15235](#) During the preparation of this work, OpenAI ChatGPT and Codex were used to assist with literature searches, proof drafting and revision, the development of computational checks, and manuscript preparation. The computational methods and their verification records are identified in the text and the accompanying archive. The author is responsible for the content of the submitted manuscript.

[arXiv:2609.15206](#) no statement

[arXiv:2609.15115](#) no statement

[arXiv:2609.14933](#) no statement

[arXiv:2609.14664](#) no statement

[arXiv:2609.14453](#) no statement

[arXiv:2609.14388](#) The authors declare that they have not used Artificial Intelligence (AI) tools in the creation of this article.

[arXiv:2609.14240](#) no statement

[arXiv:2609.14238](#) no statement

[arXiv:2609.14176](#) no statement

[arXiv:2609.14112](#) no statement

[arXiv:2609.13687](#) no statement (no email address, could not contact)

[arXiv:2609.13502](#) no statement

[arXiv:2609.13483](#) no statement

[arXiv:2609.15690](#) The authors used OpenAI's ChatGPT-5.6 Sol to assist with proofreading the manuscript and to identify possible gaps and suggest corrections. All such suggestions were independently checked and revised by the authors, who assume full responsibility for the correctness and content of the paper.

-> *could not contact authors, but contacted Alistair Savage (supervisor) instead.*

[arXiv:2609.15423](#) I am the sole author of the presented article. Grammarly, Writefull and Gemini 3.1 Pro were used to provide suggestions, corrections, and enhancements to content I have authored. I have carefully verified the accuracy, validity, and appropriateness of the final form of the manuscript.

[arXiv:2609.14904](#) no statement

[arXiv:2609.14814](#) GPT-5.6 Sol was used to help with English language editing, proofreading, and grammatical corrections. All of this article has been carefully written by the author. All of the mathematical ideas behind this work were conceived by the author.

[arXiv:2609.14315](#) During the preparation and revision of this manuscript, the authors used AI to assist with English-language editing and the TikZ code of the two figures. The authors take full responsibility for the content of the manuscript.

[arXiv:2609.14217](#) no statement

[arXiv:2609.14054](#) no statement

[arXiv:2609.13905](#) The authors declare that no artificial intelligence tools or AI-assisted technologies were used in the preparation, writing, or mathematical analysis of this manuscript.

[arXiv:2609.13766](#) no statement

[arXiv:2609.13599](#) Computations of invariants of quiver moduli in this paper are verified using [QuiverTools]. The proof of Proposition C.1 is achieved with the help of a LLM by DeepMind and verified in Lean 4. The author takes full responsibility for correctness of the proof.

->not contacted as no contact information available

[arXiv:2609.13570](#) All of the mathematics in this paper is due to the authors: no proof was obtained with the assistance of artificial intelligence, and the authors are solely responsible for the correctness of every statement and proof. Large language models were used in preparing the manuscript to improve the readability of the exposition, to check the internal consistency of notation, labels and cross-references, and to run numerical simulations.

[arXiv:2609.13412](#) no statement (does speak of a lean formalisation, but as far as I could see no AI mentioned)

[arXiv:2609.13365](#) no statement

[arXiv:2609.13337](#) no statement

Wednesday 16/9, RT: 10 submissions

[arXiv:2609.17319](#) no statement

[arXiv:2609.17272](#) no statement

[arXiv:2609.16246](#) no statement

[arXiv:2609.17467](#) abstract: AI was used to find these results. Introduction: The first version of this proof was found by GPT-6 Astra [Ope26] on September 5, 2026. We simplified and checked the proof, and wrote it up by hand, before using GPT-6 Astra and Claude Opus [Ant26] to check our document.

[arXiv:2609.17215](#) The author used AI to write GAP, Python, and C++ code implementing the author's algorithm, to explore proofs, and to assist in drafting and checking references. All mathematical ideas, algorithmic concepts, conceptual framework, and proof strategies were developed by the author. The author has verified all AI-assisted arguments and citations and takes full responsibility for the content of the paper. The author gratefully acknowledges the help of the different AI models used in this work.

[arXiv:2609.17060](#) The author did not employ AI tools in the preparation of this paper.

[arXiv:2609.17052](#) The author used ChatGPT for proofreading and to improve the phrasing and the organization of the manuscript. The final text was reviewed and edited by the author, who takes full responsibility for the content

[arXiv:2609.16387](#) After a draft of this paper was mostly written, AI tools were used (by the second author only) to proofread, reorganize, revise, and create figures. Among the mathematically substantive contributions, GPT 5.2 found and corrected a mistake in the proof of (5.1.4). Later, GPT 5.5 unearthed a gap in the material of §8, and then filled it by providing the ideas behind Lemmas 8.2.1 and 8.2.2. The material of Appendix B consists of a technical extension of existing results in the literature (with roughly the same proofs); a first draft of it was produced (again by the second author) with the help of GPT 5.6. All other statements and proofs in this paper originate from its human authors. (first author is the same as of [arXiv:2609.17060](#))

[arXiv:2609.16381](#) After an initial draft of this paper was written, AI tools (specifically GPT 5.6 and Claude Fable 5) were used for proofreading, revision, and the creation of all tables and figures. Finally, GPT6 was used for literature search in order to give appropriate attributions in the introduction. AI tools were not used in any other way. (same authors as [arXiv:2609.16387](#))

[arXiv:2609.16178](#) The author used ChatGPT 5.6 Sol Pro (OpenAI) and Claude Opus 5 (Anthropic) for exploratory calculations, proof organization, literature discovery, and language editing. The author reviewed and checked the mathematical arguments, calculations, citations, and final text and assumes sole responsibility for the contents. Neither AI system is an author.

Thursday 17/9, RT: 9 submissions

[arXiv:2609.19082](#) no statement

[arXiv:2609.18746](#) The author gratefully acknowledges the assistance of ChatGPT in the preparation and revision of this manuscript.

[arXiv:2609.18184](#) no statement

[arXiv:2609.19121](#) We used Gemini and ChatGPT for background/literature review and partial proofreading. In addition, we acknowledge that Gemini came up with a conceptual idea in the proof of Lemma 4.

[arXiv:2609.18919](#) The author is partially supported by NSF grant DMS-2453408 and acknowledges the use of OpenAI's GPT-5.6 and GPT-6.

[arXiv:2609.18665](#) AI was used as an assistant in writing some parts of this paper, which consisted of polishing earlier drafts and outlines written by the author. In particular, the Complements in Section 4 were written with AI assistance. Additionally, the version of Hensel lemma, due to Rychlik, used in Lemma 3.4.6 was following a suggestion made by Claude Opus 5.

[arXiv:2609.18146](#) no statement

[arXiv:2609.18074](#) Claude Opus and Fable, GPT-6 Astra, and Gemini 3 were extensively used for suggesting references and typesetting tables. Claude Opus and Fable verified several of the conjectured relations between bound states using CHEVIE [73] and between elliptic genera using SymPy [74] to high orders using highly optimized and parallelized computation over finite fields with minimal guidance. Refine was used for final proofreading.

[arXiv:2609.17742](#) no statement

Friday 18/9, RT: 14 submissions

[arXiv:2609.20547](#) no statement

[arXiv:2609.20332](#) no statement

[arXiv:2609.20049](#) ChatGPT was used only for language editing and improving the clarity of the manuscript. All mathematical results, arguments, and proofs were developed and verified by the authors.

[arXiv:2609.19860](#) no statement

[arXiv:2609.19430](#) no statement

[arXiv:2609.19197](#) no statement

[arXiv:2609.19172](#) The proof in this paper was found by GPT-6-Astra in research directed by the author, and the first draft of the manuscript was written by GPT-6-Astra. Claude Opus 5 revised the exposition of the manuscript. The author set the structure and much of the wording of the present text. The author is responsible for the result.

[arXiv:2609.20567](#) AxiomProver is an AI system for mathematical research through formal proof, currently under development at Axiom Math. The finite identity of Theorem 1.1 and the HJO conjecture in Corollary 1.2 have been formalized with AxiomProver in Lean, assuming the existing literature specified below. The repository contains the formal statements, proofs, and instructions for checking the certificate: <https://github.com/AxiomMath/HJO> The human-written challenge file gives the definitions and hypotheses. The solution proves the stated targets. The repository reports successful verification with the Lean comparator. This formalization requires two explicit literature hypotheses. Their Lean names and mathematical content are as follows. (followed by technical statements).

[arXiv:2609.20403](#) The initial mathematical exploration, core ideas and algorithms of this work were developed by the authors. LLM-based AI tools were used at later stages to assist with coding and manuscript polishing. We take full responsibility for the content of this paper and its supplementary files.

[arXiv:2609.20220](#) During the preparation of this work, the author used Claude, Anthropic's Fable 5 model, for deep research, formulation of theorems, and drafts of their proofs. The author

reviewed and edited the output as needed and takes full responsibility for the content of the published article.

[arXiv:2609.20203](#) no statement

[arXiv:2609.19744](#) An LLM, which we decline to name for reasons akin to those given in Footnote 3 of [18], was used for clarifying suggestions on both proofs and exposition as this project neared completion. All ideas and arguments are due to the author, and she takes responsibility for any remaining errors.

[18] is <https://arxiv.org/pdf/2608.16066> There footnote 3 reads:

Mathematicians are currently being instrumentalised in a large scale advertising campaign by AI companies competing for market monopoly. Public grant money is being paid to companies which then receive free advertising from us, often while showing little regard for our research priorities. More seriously, as part of this advertising campaign, some companies are pushing misinformation about the goals of mathematical research. This misinformation has the real potential to influence government funding decisions in a way that funnels money away from scientific goals, and towards private interests. This advertising campaign has more serious collateral damage. Mathematics depends on a human research ecosystem which continually generates new problems and sustains the community capable of recognising and pursuing them. Human generated research problems are a scarce and essential part of this mathematical ecosystem. Conceptually incoherent and empirically unsupported rhetoric portraying mathematicians as replaceable threatens a pipeline of early career researchers already in precarious employment conditions. Damaging either undermines the infrastructure on which future mathematical progress depends. While the author does want to be transparent about the use of computer assistance in the preparation of the current manuscript, he does not want to participate in this advertising campaign and contribute to this destruction of the commons. As such, the model and company name will remain absent from this manuscript, but are available upon request.

[arXiv:2609.19439](#) After writing the initial draft, the author used GPT-6 Astra only for proofreading and reviewing the mathematical content of this paper, and for assistance with drafting in Sections 22.3–22.4 and B.1–B.2. The reference material used for this drafting assistance included [GS22] and [Gan05] for Sections 22.3, B.1, and B.2, and [GS20] for Section 22.4. Of course, the author takes responsibility for the contents and details of this paper.

[arXiv:2609.19329](#) This work is based in part on BS’s PhD thesis. This paper was drafted by hand by NS. The main mathematical ideas came from the authors, but ChatGPT 5.6 Sol was used for adapting the paper from analytic deformations to infinitesimal deformations. This adaptation mostly involved routine commutative algebra that NS should have remembered, but ChatGPT did find a key improvement in the argument for Theorem 6 allowing us to avoid considering 5-boxes. AI was also used to draw some TikZ diagrams, for literature search, and to find and fix minor errors. In a few cases (e.g., Lemma 2.2) these suggested edits on the final draft were used verbatim. Many diagrams and a few definitions are reused from [MST26].