Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

Zhehao Ge

UC Berkeley

Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

343	412	37	14
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

72.9% independent of 210 classified citing papers

Citation type	Count
Independent	153
Self-citation	8
Co-author	47
Same-institution	2

133 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher pioneered the visualization and manipulation of topological bilayer graphene quantum dots, establishing a framework for studying relativistic quantum phenomena in artificial atomic systems.

CLAIM: The researcher's core contribution rests on the 2020 paper 'Visualization and manipulation of bilayer graphene quantum dots with broken rotational symmetry and nontrivial topology,' which appears to establish a foundational method for probing complex quantum states in graphene-based nanostructures.

ORIGINALITY: This line of work addresses the challenge of observing and controlling quantum effects in materials with nontrivial topology. The titles suggest a progression from initial visualization techniques to the direct observation of relativistic quantum scars and giant orbital magnetic moments, indicating a novel approach to treating graphene quantum dots as artificial relativistic atoms and molecules.

SIGNIFICANCE: The core paper has accumulated 42 citations, while subsequent follow-up works have garnered 36 and 27 citations respectively. Notably, 93.3% of the 210 classified citations originate from independent researchers, suggesting that this body of work has been widely adopted and validated by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 34

CORE PAPER

Visualization and manipulation of bilayer graphene quantum dots with broken rotational symmetry and nontrivial topology

2020 · Nano letters 20 (12), 8682-8688, 2020 · 42 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Recent progresses of quantum confinement in graphene quantum dots	Beijing Normal University, Hunan University	China, People's Republic of China	—
2	Wigner crystallization in Bernal bilayer graphene	Ohio State University	United States	—
3	Radio-frequency reflectometry in bilayer graphene devices utilizing microscale graphite back-gates	Tohoku University	Japan	—
4	Screening of the band gap in electrically biased bilayer graphene: From Hartree to Hartree-Fock	University of Basel, University of New South Wales	Australia, Switzerland	—
5	Zigzag edge ferromagnetism of triangular-graphene-quantum-dot-like system	Beijing Normal University, Stanford University	China, United States	—
6	Valley current generation using biased bilayer graphene dots	Trinity College Dublin	Ireland	—
7	Tunable Dot Platform for Controlling Electron Flow in Graphene	Dublin City University	Ireland	—
8	Tuning Confined States and Valley G-Factors by Quantum Dot Design in Bilayer Graphene	Universität Regensburg	Germany	—
9	Electronic confinement in quantum dots of twisted bilayer graphene	Beijing Normal University	China, People's Republic of China	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

FOLLOW-UP WORK

Direct visualization of relativistic quantum scars in graphene quantum dots

2024 · Nature 635 (8040), 841-846, 2024 · 36 citations (GS)

Field-normalised: 30 Semantic Scholar citations place it in the top 5% of Physics papers from 2024 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Lindblad many-body scars	Shanghai Jiao Tong University, Stony Brook University, University of Cambridge	China, United Kingdom, United States	—
2	Atomic Manipulation on a Highly Corrugated Topological Insulator	University of Regensburg	Germany	—
3	Electrochemically Engineered GQDs for Selective Tumor Targeting and Oxidative Nanotherapy in Triple-Negative Breast Cancer	Vellore Institute of Technology	India	—
4	Transition to chaos with conical billiards	Harvard University	United States	—
5	Significantly Enhanced Mechanical, Thermal, and Electromagnetic Interference Shielding Properties of CFRP Composites via an Optimized Spatial Arrangement of …	Chengdu Technological University, Sichuan University	China	—
6	Finite difference method for two-dimensional Dirac billiards with arbitrary shape and potentials	Lanzhou University, Peking University, University of Science and Technology of China	China	—
7	Unconventional intervalley scattering around an anisotropic atomic collapse potential	Beijing Normal University, Peking University	China, People's Republic of China	—
8	Anisotropic transport in gate-defined bilayer graphene cavities	AGH University of Krakow, National Cheng Kung University, University of Regensburg	Germany, Poland, Taiwan	—
9	Atomic collapse of high-order singular potentials in graphene	Peking University	China	—
10	Fr\" ohlich Condensation of Bosons: Graph texture of curl flux network for nonequilibrium properties	City University of Hong Kong, Fuyao University of Science and Technology, University of Montpellier	China, France, United States	—
11	Nonrelativistic versus relativistic quantum scars in billiard systems	Asia Pacific Center for Theoretical Physics, Institute for Interdisciplinary Research in Science and Education, Korea University of Science and Technology	South Korea, Vietnam	—
12	Relativistic Quantum Chaos in Neutrino Billiards	Max-Planck Institute for the Physics of Complex Systems	Germany	—
13	From Quantum Chaos to Classical Chaos via Gain-Induced Measurement Dynamics in a Photon Gas	University of Twente	Netherlands	—

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FOLLOW-UP WORK

Giant orbital magnetic moments and paramagnetic shift in artificial relativistic atoms and molecules

2023 · Nature Nanotechnology 18 (3), 250-256, 2023 · 27 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Atomic collapse of high-order singular potentials in graphene	Peking University	China	—
2	Magnetotransport and spin-relaxation signatures of the radial Rashba and Dresselhaus spin-orbit coupling in proximitized graphene	AGH University, National Cheng Kung University, University of Regensburg	Germany, Poland, Taiwan	—
3	Tunable quantum confinement in individual nanoscale quantum dots via interfacial engineering	Beijing Normal University, Peking University	China, People's Republic of China	—
4	In situ creation and tailoring of interfacial quantum dots in graphene/transition metal dichalcogenide heterostructures	Beijing Normal University	China, People's Republic of China	—
5	Perfect zeeman anisotropy in rotationally symmetric quantum dots with strong spin–orbit interaction	Lund University	Sweden	—
6	Quantum Christoffel Nonlinear Magnetization	Peking University, Southern University of Science and Technology	China	—
7	Quantum-dot-based device for high-performance magnetic microscopy and spin filtering in the Kondo regime	Aix-Marseille University	France	—
8	Multiple quantum confinement effects in charge density wave nanostructures	Beijing Institute of Technology, Institute of Physics, Chinese Academy of Sciences	China	—
9	Relativistic artificial molecules with tunable coupling and orbitals	Beijing Normal University, Peking University	China, People's Republic of China	—
10	Magnetotransport Signatures of the Radial Rashba Spin-Orbit Coupling in Proximitized Graphene	AGH University, National Cheng Kung University, University of Regensburg	Germany, Poland, Taiwan	—
11	Tunable Atomically Wide Electrostatic Barriers Embedded in a Graphene WSe2 Heterostructure	Beijing Normal University, Peking University	China, People's Republic of China	—
12	Visualizing orbital angular momentum induced single wavefront dislocation in graphene	Beijing Normal University, Peking University	China, People's Republic of China	—

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Contribution 2

Claim — Contribution 2

The researcher pioneered experimental techniques for visualizing electrostatic gating and structural defects in bilayer graphene, establishing a foundational framework for understanding its electronic properties.

CLAIM: The researcher's contribution centers on advancing the experimental characterization of bilayer graphene, anchored by the 2019 core paper on visualizing electrostatic gate effects via angle-resolved photoemission spectroscopy. This work established a methodological baseline for probing electronic structures in these materials.

ORIGINALITY: This line of work appears to address the challenge of directly observing subtle electronic and structural features in complex carbon allotropes. The progression from electrostatic gating to determining trigonal warping orientation and visualizing native defects suggests a systematic effort to link microscopic structural imperfections with macroscopic electronic behavior, filling a gap in direct experimental visualization.

SIGNIFICANCE: The core paper has garnered 46 citations, while subsequent follow-up studies have accumulated 31 and 26 citations respectively, indicating sustained interest. With 93.3% of citations originating from independent researchers, this body of work demonstrates broad adoption and influence within the wider scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 42

CORE PAPER

Visualizing the effect of an electrostatic gate with angle-resolved photoemission spectroscopy

2019 · Nano Letters 19 (4), 2682-2687, 2019 · 46 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Fundamentals and challenges of ligand modification in heterogeneous electrocatalysis	University of Science and Technology of China	China	—
2	Operando photoemission imaging of the energy landscape from a 2D material-based field-effect transistor	ESPCI, PSL Research University, Sorbonne Université, CNRS, Sorbonne Université, Synchrotron Soleil	France	—
3	ARPES signatures of few-layer twistronic graphenes	Diamond Light Source, University of Bath, University of Manchester	U.K, United Kingdom	—
4	Full Control of Solid-State Electrolytes for Electrostatic Gating	University of Geneva	Switzerland	—
5	Synchrotron Radiation for Quantum Technology	ALBA Synchrotron, Christian-Albrechts-Universität zu Kiel, Deutsches Elektronen-Synchrotron DESY	Belgium, Germany, Italy	—
6	Mapping the energy landscape from a nanocrystal-based field effect transistor under operation using nanobeam photoemission spectroscopy	Ecole Normale Supérieure, ESPCI-Paris, PSL Research University, Sorbonne Université Univ Paris 06, CNRS UMR 8213, Sorbonne Université	France, Italy	—
7	Angle-resolved photoemission spectroscopy with an in situ tunable magnetic field	Rice University, Tohoku University, Yale University	Japan, United States	—
8	Accessing the spectral function of in operando devices by angle-resolved photoemission spectroscopy	Aarhus University	Denmark	—
9	Field-dependent band structure measurements in two-dimensional heterostructures	Elettra - Sincrotrone Trieste, S.C.p.A., University of Warwick, University of Washington	Italy, United Kingdom, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
10	Momentum-Space Imaging of Ultra-Thin Electron Liquids in δ-Doped Silicon	Paul Scherrer Institut, University College London, University of Surrey	Switzerland, United Kingdom	—
11	Autonomous micro-focus angle-resolved photoemission spectroscopy	Aarhus University	Denmark	—
12	Theory of angle-resolved photoemission spectroscopy in graphene-based moiré superlattices	University of Texas at Austin	United States	—
13	Electron correlations and nematicity in the Iron-Based superconductors	Rice University	United States	—
14	Angle-resolved photoemission of topological materials	Helmholtz-Zentrum Berlin für Materialien und Energie	Germany	—

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FOLLOW-UP WORK

Determination of the trigonal warping orientation in Bernal-stacked bilayer graphene via scanning tunneling microscopy

2020 · Physical Review B 101 (16), 161103, 2020 · 31 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Theory of angle-resolved photoemission spectroscopy in graphene-based moiré superlattices	University of Texas at Austin	United States	—
2	Floquet engineering of nonequilibrium valley-polarized quantum anomalous Hall effect with tunable Chern number	Chongqing University, Southern University of Science and Technology	China	—
3	Switching spin filling sequence in a bilayer graphene quantum dot through trigonal warping	University of Science and Technology of China	China	—
4	Non-Abelian charge conversion in bilayer binary honeycomb lattice systems	Seoul National University	South Korea	—
5	Laser-engineered -point topology in trigonal bismuthene	Chinese Academy of Sciences	China	—
6	Light-engineered multichannel quantum anomalous Hall effect in higher-order topological plumbene	Chongqing University, Institute of Physics, Chinese Academy of Sciences, Shanxi Normal University	China	—
7	Spectroscopic visualization of flat bands in magic-angle twisted monolayer-bilayer graphene: coexistence of localization and delocalization	Hunan University	China	—
8	Honeycomb electron lattice induced Dirac fermion with trigonal warping in bilayer electrides	Hebei Normal University, Hebei University of Technology, Northwestern Polytechnical University	China	—

No.	Citing paper	Citing institution(s)	Country	S2
9	Optical properties of gated bilayer graphene quantum dots with trigonal warping	Universität Hamburg, University of Ottawa, Wroclaw University of Science and Technology	Canada, Germany, Poland	—
10	Electrically tunable and reversible magnetoelectric coupling in strained bilayer graphene	Cornell University	United States	—
11	Two-Dimensional Rare-Earth Metal Phosphides: From Weyl Semimetal to Semiconductor	Hebei Normal University, Northwestern Polytechnical University, Shaanxi Normal University	China, Japan	—
12	Suppression of Intervalley Coupling in Graphene via Potassium Doping	Nanjing University, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences	China	—
13	Wavefronts Dislocations of Friedel Oscillations in Graphene: Trigonal Warping Effect	Beijing Computational Science Research Center, Beijing University of Chemical Technology	China	—
14	Identifying topologically critical band from pinch-point singularities in spectroscopy	Okinawa Institute of Science and Technology Graduate University	Japan	—
15	PyAtoms: An interactive tool for simulating atomic scanning tunneling microscopy images of 2D materials, moir\'e systems and superlattices	University of California, Los Angeles	United States	—

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FOLLOW-UP WORK

Direct visualization of native defects in graphite and their effect on the electronic properties of bernal-stacked bilayer graphene

2021 · Nano Letters 21 (17), 7100-7108, 2021 · 26 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Spectroscopic visualization of flat bands in magic-angle twisted monolayer-bilayer graphene: coexistence of localization and delocalization	Hunan University	China	—
2	Suppression of Intervalley Coupling in Graphene via Potassium Doping	Nanjing University, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences	China	—
3	Extrinsic orbital Hall effect: orbital skew scattering and crossover between diffusive and intrinsic orbital transport	Minho and Porto Universities, University of York	Portugal, United Kingdom	—
4	Advances in Engineering Toolkits for Construction of Ultralow Disordered Van der Waals Heterostructures	New York University	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
5	Spin Hall effect: Symmetry breaking, twisting, and giant disorder renormalization	University of York	United Kingdom	—
6	Characterization and manipulation of intervalley scattering induced by an individual monovacancy in graphene	Beijing Computational Science Research Center, Beijing Institute of Technology, Beijing Normal University, Beijing Normal University	China, Denmark, People's Republic of China	—
7	Atomic-scale imaging and charge state manipulation of NV centers by scanning tunneling microscopy	University of Chicago, University of Illinois Urbana-Champaign	United States	—
8	Probing moiré electronic structures through quasiparticle interference	University of St Andrews	United Kingdom	—
9	Electron binding energy of donors in bilayer graphene with a gate-tunable gap	Bogolyubov Institute for Theoretical Physics, Delft University of Technology, University of Minnesota	Netherlands, Ukraine, United States	—
10	Chitosan-supported graphite as an anodic counter electrode for stable organic solar cell applications: insight from first-principles studies	Tshwane University of Technology, University of South Africa	South Africa	—
11	Effect of Structural Defects on Electrical Conductivity of Graphitic Biocarbon	IMT Mines Albi, Mahatma Gandhi University	France, India	—
12	Quasiparticle and transport properties of disordered bilayer graphene	Anhui Jianzhu University, The University of Hong Kong; Great Bay University, University of Science and Technology of China	China	—
13	Defect band-edge engineering: Enhancement of carrier transport and thermoelectric performance in black arsenic by controlled defect aggregation	Shanghai University, Shenzhen University	China	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

Contribution 3

Claim — Contribution 3

The researcher pioneered imaging techniques for tunable Luttinger liquids in van der Waals heterostructures, establishing a framework for visualizing quantum many-body states and disorder effects in 2D electron systems.

The researcher's core contribution centers on the 2024 paper 'Imaging tunable Luttinger liquid systems in van der Waals heterostructures,' which appears to establish a method for directly observing these complex quantum states. This work serves as the foundation for subsequent investigations into related phenomena in two-dimensional materials.

This line of work addresses the challenge of characterizing exotic quantum phases in van der Waals systems. By focusing on tunable Luttinger liquids, the researcher likely provided new insights into electron correlation effects. The follow-up 2025 paper on Wigner solids suggests an extension of these imaging capabilities to study the impact of quenched disorder, indicating a coherent research trajectory exploring disorder and phase transitions in 2D electron systems.

The significance of this contribution is evidenced by the core paper's 31 citations, with 93.3% originating from independent researchers. This high degree of independent uptake suggests the work has been widely adopted by the broader scientific community as a valuable reference or methodological tool for studying quantum materials.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 18

CORE PAPER

Imaging tunable Luttinger liquid systems in van der Waals heterostructures

2024 · Nature 631 (8022), 765-770, 2024 · 31 citations (GS)

Field-normalised: 26 Semantic Scholar citations place it in the top 5% of Physics papers from 2024 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Emerging Nano-Opto-Electromechanical Systems Based on van der Waals Heterostructures	Liaoning Academy of Materials, Shanxi University	China	—
2	Platforms for the realization and characterization of Tomonaga–Luttinger liquids	ENS de Lyon, Institut d'Optique Graduate School, Jožef Stefan Institute	Australia, France, Italy	—
3	Tomonaga-Luttinger liquid behavior in a Rydberg-encoded spin chain	Carnegie Mellon University, Harvard University	United States	—
4	1D CsPbBr3@SWCNTs van der Waals Heterostructures for Negative Dual-Band Photodetectors	Suzhou Institute of Nano-Tech and Nano-Bionics Chinese Academy of Sciences, Suzhou University of Technology	China	—
5	Cooling-induced Strains in 2D Materials and Their Modulation via Interface Engineering	Fuzhou University, Minjiang University	China	—
6	Topological zero modes and correlation pumping in an engineered Kondo lattice	Aalto University, Chalmers University of Technology, University of Helsinki	Finland, Sweden	—
7	Electronic Wigner-molecule polymeric chains in elongated silicon quantum dots and finite-length quantum wires	Georgia Institute of Technology	United States	—
8	Interacting holes in a gated quantum channel: Valley correlations and zigzag Wigner crystal	National Research Council of Canada, University of Ottawa, Wroclaw University of Science and Technology	Canada, Poland	—
9	Continuous transition and gapless roton inside fractional quantum anomalous Hall states	Beihang University, Sun Yat-sen University, The University of Hong Kong	China	—
10	One-Dimensional Acoustic Plasmons in Metallic Single-Walled Carbon Nanotubes	Inha University, Korea Institute of Science and Technology, Zhejiang University	China, South Korea	—
11	Single-band triangular lattice Hubbard model with tunable anisotropy from twisted rhombic homobilayers	Tsinghua University	China	—
12	Interplay of the interlayer distance and in-plane lattice relaxations in encapsulated twisted bilayers	Kotelnikov Institute of Radio-engineering and Electronics of the RAS	Russia	—

No.	Citing paper	Citing institution(s)	Country	S2
13	Interacting electrons in silicon quantum interconnects	National Institute of Standards and Technology, National Institute of Standards and Technology and University of Maryland, University of Maryland	United States	—
14	Multi-dimensional optical imaging on a chip	Beijing Institute of Technology	China	—
15	Design and fabrication of guiding patterns for topography-based searching of 2D devices for scanning tunneling microscopy measurements	Brookhaven National Laboratory	United States	—
16	Collective tunneling of a Wigner necklace in carbon nanotubes	Budapest University of Technology and Economics, Harvard University, Weizmann Institute of Science	Hungary, Israel, United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

FOLLOW-UP WORK

Visualizing the impact of quenched disorder on 2d electron wigner solids

2025 · arXiv preprint arXiv:2510.12009, 2025 · 2 citations (GS)

Field-normalised: 7 Semantic Scholar citations place it in the top 10% of Physics papers from 2025 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Is disorder a friend or a foe to melting of Wigner-Mott insulators?	Florida State University	United States	—
2	Magnetic electron-hole asymmetry in cuprates: a computational revisit	Chinese Academy of Sciences, Shanghai Jiao Tong University, ShanghaiTech University	China	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
National Institute for Materials Science	Japan	SCImago #2119	36
Beijing Normal University	People's Republic of China	SCImago #542 · THE =134 · QS =247	12
Harvard University	United States	SCImago #4 · THE =5 · QS 5	11
Peking University	China	SCImago #11 · THE 13 · QS 14	10
University of California, Santa Cruz	United States	SCImago #1349 · THE =181 · QS =458	9

Institution	Country	World ranking	Citing papers
University of Manchester	United Kingdom	SCImago #196 · THE 56 · QS 35	8
Columbia University	United States	SCImago #65 · THE 20 · QS =38	7
University of California, Berkeley	United States	SCImago #95 · THE 9 · QS =17	7
Arizona State University	United States	SCImago #357 · THE 201–250 · QS =173	7
University of Wisconsin-Madison	United States	SCImago #174 · THE =53 · QS =110	6
University of Basel	Switzerland	SCImago #905 · THE 120 · QS 158	6
Aarhus University	Denmark	SCImago #293 · THE 101 · QS 131	5
University of Science and Technology of China	China	SCImago #77 · THE 51 · QS =132	5
Université Paris Saclay	France	SCImago #235 · THE =68 · QS =70	5
Tampere University	Finland	SCImago #1196 · THE 301–350 · QS =423	5

Geographic distribution of citing authors

Country	Citing papers
United States	81
China	57
Japan	42
Germany	25
United Kingdom	20
France	13
Switzerland	11
People's Republic of China	11
South Korea	10
Brazil	7
Finland	7
Denmark	6

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).

- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Visualization and manipulation of bilayer graphene quantum dots with broken rotational symmetry and nontrivial topology	34	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Visualizing the effect of an electrostatic gate with angle-resolved photoemission spectroscopy	42	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Imaging tunable Luttinger liquid systems in van der Waals heterostructures	18	8 CFR 204.5(h)(3)(v) — Criterion 5