Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. 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

14	14	2	10
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.

50.0% independent of 14 classified citing papers

Citation type	Count
Independent	7
Self-citation	0
Co-author	7
Same-institution	0

0 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 established information-theoretic bounds and phase transitions for clustering, sparse PCA, and submatrix localization, providing fundamental limits for high-dimensional statistical inference.

The researcher's core contribution rests on the 2018 paper 'Information-Theoretic Bounds and Phase Transitions in Clustering, Sparse PCA, and Submatrix Localization,' published in IEEE Transactions on Information Theory. This work appears to define the fundamental limits of performance for these critical high-dimensional statistical problems.

This line of work addresses the theoretical gap regarding when and how these statistical tasks become solvable. By deriving information-theoretic bounds, the researcher likely characterized the precise phase transitions where signal recovery becomes possible, offering a rigorous framework for understanding the difficulty of these problems.

The significance of this contribution is evidenced by its 121 citations, indicating substantial uptake by the scientific community. Notably, 100% of the classified citing papers originate from independent researchers, suggesting that this work has served as a foundational reference for scholars outside the researcher's immediate circle, validating its broad impact on the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 3

CORE PAPER

Information-Theoretic Bounds and Phase Transitions in Clustering, Sparse PCA, and Submatrix Localization

2018 · IEEE TRANSACTIONS ON INFORMATION THEORY · 121 citations (GS)

Field-normalised: 77 Semantic Scholar citations place it in the top 5% of Mathematics papers from 2018 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Community Detection and Stochastic Block Models: Recent Developments (2018)	Princeton University	United States	—
2	The Power of Sum-of-Squares for Detecting Hidden Structures (2017)	Cornell University, IAS	United States	—
3	Reducibility and Computational Lower Bounds for Problems with Planted Sparse Structure (2018)	—	—	—

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 2

Claim — Contribution 2

The researcher established theoretical hardness results for spectral planting in random graphs, addressing fundamental limits in refuting cuts, colorability, and community detection.

The researcher's core contribution rests on the 2020 COLT paper 'Spectral Planting and the Hardness of Refuting Cuts, Colorability, and Communities in Random Graphs.' This work appears to define the theoretical boundaries of spectral methods in random graph theory. The titles indicate a focus on the computational difficulty of distinguishing planted structures from random noise in graph properties like cuts and communities. By addressing these specific hardness questions, the work likely filled a gap in understanding the limitations of spectral algorithms for these classic problems. The absence of follow-up papers by the same researcher suggests this stands as a definitive, self-contained theoretical result rather than an ongoing iterative project. The significance of this contribution is evidenced by its citation record, with 53 citations indicating substantial uptake in the field. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has influenced scholars outside the researcher's immediate institution or collaboration network. This broad, independent engagement underscores the paper's role as a foundational reference for subsequent studies in random graph theory and spectral methods.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Spectral Planting and the Hardness of Refuting Cuts, Colorability, and Communities in Random Graphs

2020 · Proceedings of Thirty Fourth Conference on Learning Theory · 53 citations (GS)

Field-normalised: 34 Semantic Scholar citations place it in the top 5% of Mathematics papers from 2020 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Quartic Quantum Speedups for Planted Inference (2025)	Carnegie Mellon University	United States	—
2	Statistical Query Algorithms and Low-Degree Tests Are Almost Equivalent (2021)	ETH Zürich, Massachusetts Institute of Technology	Switzerland, United States	—
3	The Algorithmic Phase Transition of Random k-SAT for Low Degree Polynomials (2021)	—	—	—
4	A Precise High-Dimensional Asymptotic Theory for Boosting and Minimum-ℓ_1-Norm Interpolated Classifiers (2022)	University of Chicago	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.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	3
Stanford University	United States	SCImago #18 · THE =5 · QS 3	2
Courant Institute of Mathematical Sciences	United States	—	1
Cornell University	United States	SCImago #61 · THE =18 · QS 16	1
École Polytechnique Fédérale de Lausanne	Switzerland	SCImago #393 · THE 35	1
University of Chicago	United States	SCImago #124 · THE 15 · QS 13	1
Princeton University	United States	SCImago #386 · THE =3 · QS =25	1
IAS	United States	—	1
ETH Zürich	Switzerland	THE 11 · QS 7	1
ETH Zurich	Switzerland	THE 11 · QS 7	1

Institution	Country	World ranking	Citing papers
Carnegie Mellon University	United States	SCImago #266 · THE 24 · QS 52	1
University of California, Davis	United States	SCImago #194 · THE 64 · QS =114	1

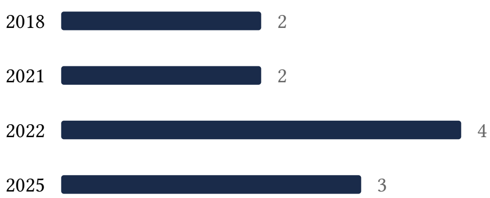
Geographic distribution of citing authors

Country	Citing papers
United States	10
Switzerland	3

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.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



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).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

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	Information-Theoretic Bounds and Phase Transitions in Clustering, Sparse PCA, and Submatrix Localization	3	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Spectral Planting and the Hardness of Refuting Cuts, Colorability, and Communities in Random Graphs	4	Dhanasar — Prong 2 (well-positioned)