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 2026-06-10 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

4,217	4,875	30	59
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.

88.2% independent of 2,771 classified citing papers

Citation type	Count
Independent	2,443
Self-citation	46
Co-author	282
Same-institution	0

1,452 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 advanced the theoretical understanding of spin-orbit coupling and its application to antiferromagnetic spintronics, establishing a foundational framework for current-induced spin-orbit torques in magnetic systems.

The researcher's contribution centers on redefining the theoretical landscape of Rashba spin–orbit coupling, as evidenced by the seminal 2015 paper 'New perspectives for Rashba spin–orbit coupling.' This core work serves as the intellectual anchor for a sustained line of inquiry into spintronic phenomena, specifically bridging fundamental coupling mechanisms with practical device physics.

Originality in this body of work appears to lie in extending these foundational concepts to complex magnetic systems. The chronological progression from the 2015 core paper to the 2018 and 2019 follow-ups suggests a deliberate expansion from general coupling perspectives to specific applications in antiferromagnetic spintronics and current-induced torques. This trajectory indicates a novel approach to manipulating spin states in both ferromagnetic and antiferromagnetic materials, addressing gaps in how spin-orbit effects are utilized in next-generation memory and logic devices.

The significance of this research is underscored by its substantial uptake within the scientific community. The core paper has accumulated 2,602 citations, while the subsequent works on antiferromagnetic spintronics and spin-orbit torques have garnered 3,275 and 1,938 citations, respectively. Notably, 92.1% of the citing papers originate from independent researchers, demonstrating that this line of work has become a widely adopted reference point for the broader field rather than a niche or self-referential effort.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 1,937 · **35 flagged influential by Semantic Scholar**

CORE PAPER

New perspectives for Rashba spin–orbit coupling

2015 · Nature materials 14 (9), 871-882, 2015 · 2,602 citations (GS)

Field-normalised: 1,835 Semantic Scholar citations place it in the top 1% of Physics papers from 2015 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Crystal-symmetry-paired spin–valley locking in a layered room-temperature metallic altermagnet candidate	Hong Kong University of Science and Technology, Southern University of Science and Technology	China	—
2	Predictable gate-field control of spin in altermagnets with spin-layer coupling	Beijing Institute of Technology	China	—
3	Second harmonic generation control in 2D layered materials: status and outlook	Huazhong University of Science and Technology, Wuhan Institute of Technology	China	—
4	Nonrelativistic spin-momentum coupling in antiferromagnetic twisted bilayers	Central South University of Forestry and Technology, Hunan University	China	—
5	Prediction of low-Z collinear and noncollinear antiferromagnetic compounds having momentum-dependent spin splitting even without spin-orbit coupling	Chinese Academy of Sciences, Northwestern University, University of Colorado	China, United States	—
6	Nearly perfect spin polarization of noncollinear antiferromagnets	Chinese Academy of Sciences; University of Science and Technology of China, Univer-	China, USA; UK, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
		sity of Nebraska, University of Nebraska, Lincoln; University of Oxford		
7	Spin current as a probe of quantum materials	Peking University, RIKEN	China, Japan	—
8	Current-controlled propagation of spin waves in antiparallel, coupled domains	Beihang University, International Quantum Academy	China	—
9	Orbitally dominated Rashba-Edelstein effect in noncentrosymmetric antiferromagnets	National Institute of Science Education and Research, Uppsala University	India, Sweden	—
10	Emergent multifunctional magnetic proximity in van der Waals layered heterostructures	Boston College, Sungkyunkwan University	South Korea, United States	—
11	Spintronics intelligent devices	Beihang University	China	—
12	Superconductivity of anomalous pseudospin in nonsymmorphic materials	University of Otago, University of Wisconsin, University of Wisconsin, Milwaukee and Stanford University	New Zealand, United States	Background
13	Altermagnetism in the orthorhombic structure through group theory and DFT calculations	Indian Institute of Science Education and Research Bhopal	India	—
14	Emergent phenomena with broken parity-time symmetry: Odd-order versus even-order effects	Rutgers University	United States	—
15	Zeeman effect in centrosymmetric antiferromagnetic semiconductors controlled by an electric field	Jilin University, Nanjing University, University of Arkansas	China, United States	—
16	Spin splitting in the surface electronic structure of antiferromagnet NdBi	Hiroshima University, Toyama Prefectural University	Japan	—
17	Electrically Switchable Nonrelativistic Zeeman Spin Splittings in Collinear Antiferromagnets	Jilin University, University of Arkansas, Zhejiang University; Jilin University	China, United States	—
18	Transition from antiferromagnets to altermagnets: Symmetry-breaking theory	Xiangtan University	China	—
19	Antiferromagnetic insulators with tunable magnon-polaron Chern numbers induced by in-plane optical phonons	Johns Hopkins University, The University of Texas at Austin	United States	—
20	Field-free spin–orbit torque-induced magnetization switching in the IrMn/CoTb bilayers with a spontaneous in-plane exchange bias	Nanjing University, Nanjing University of Posts and Telecommunications	China	—
21	Twisted surface magnons induced by magnon spin-orbit coupling	Central South University, University of Chinese Academy of Sciences	China	—
22	Tunable spin textures in polar antiferromagnetic hybrid organic–inorganic perovskites by electric and magnetic fields	Fudan University, Hefei Normal University, University of L'Aquila	China, Italy	—
23	Non-relativistic spin splitting: Features and Functionalities	ETH Zurich, Indian Institute of Technology Kanpur	India, Switzerland	—

No.	Citing paper	Citing institution(s)	Country	S2
24	Theory of the interfacial Dzyaloshinskii-Moriya interaction in Rashba antiferromagnets	Johannes Gutenberg-University Mainz, Norwegian University of Science and Technology, Radboud University	Germany, Netherlands, Norway	—
25	The future transistors	IBM Research, Intel Corporation, Samsung Advanced Institute of Technology	France, Japan, South Korea	—
26	Towards two-dimensional van der Waals ferroelectrics	Southern University of Science and Technology	China	—
27	Absence of Altermagnetic Spin Splitting Character in Rutile Oxide	Fudan University, Nanjing University, Shanghai Institute of Microsystem and Information Technology	China	—
28	Efficient Spin-to-Charge Conversion via Altermagnetic Spin Splitting Effect in Antiferromagnet	Institute of Physics, Chinese Academy of Sciences, Tsinghua University, University of Chinese Academy of Sciences	China	Background
29	Advances in thermoelectric materials research: Looking back and moving forward	Clemson University	United States	—
30	Janus monolayers of transition metal dichalcogenides	King Abdullah University of Science and Technology	Saudi Arabia	—

Showing the 30 most-cited of 651 independent citing papers.

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology* / *Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

FOLLOW-UP WORK

Antiferromagnetic spintronics

2018 · Reviews of Modern Physics 90 (1), 015005, 2018 · 3,275 citations (GS)

Field-normalised: 2,599 Semantic Scholar citations place it in the top 1% of Physics papers from 2018 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Altermagnetism: Exploring new frontiers in magnetism and spintronics	Beijing Institute of Technology, Johannes Gutenberg University Mainz, Max Planck Institute for the Physics of Complex Systems	China, Germany	—
2	Altermagnets as a new class of functional materials	Tsinghua University	China	—
3	Topological kagome magnets and superconductors	Princeton University, Princeton University; Southern University of Science and Technology	USA; China, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
4	Observation of time-reversal symmetry breaking in the band structure of altermagnetic RuO2	Deutsches Elektronen-Synchrotron DESY, Institute of Physics Academy of Sciences of the Czech Republic, Johannes Gutenberg-Universität Mainz	Czech Republic, Germany, United States	—
5	Antiferroelectric altermagnets: Antiferroelectricity alters magnets	Eastern Institute for Advanced Study, Eastern Institute of Technology, Eastern Institute of Technology, Eastern Institute of Technology; University of Science and Technology of China	China	—
6	Non-collinear antiferromagnetic spintronics	Max Planck Institute of Microstructure Physics	Germany	—
7	Large Band Splitting in -Wave Altermagnet CrSb	Chinese Academy of Sciences, Shanghai Institute of Microsystem and Information Technology, Shanghai Synchrotron Radiation Facility	China	—
8	Coherent antiferromagnetic spintronics	Tohoku University	Japan	—
9	Crystal-symmetry-paired spin–valley locking in a layered room-temperature metallic altermagnet candidate	Hong Kong University of Science and Technology, Southern University of Science and Technology	China	—
10	Quantum anomalous Hall effect in intrinsic magnetic topological insulator MnBi2Te4	Fudan University, University of Science and Technology of China	China	—
11	Electrical 180 switching of Néel vector in spin-splitting antiferromagnet	Hong Kong University of Science and Technology, Tsinghua University, University of Tennessee	China, United States	—
12	Observation of plaid-like spin splitting in a noncoplanar antiferromagnet	Southern University of Science and Technology	China	Background
13	Enumeration and representation theory of spin space groups	Southern University of Science and Technology	China	—
14	Electrical control of magnetism by electric field and current-induced torques	Université Paris-Saclay, University of Basque Country (UPV/EHU), University of California, Irvine Medical Center	France, Spain, United States	—
15	Room-temperature magnetoresistance in an all-antiferromagnetic tunnel junction	Beihang University, Huazhong University of Science and Technology, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences	China	—

No.	Citing paper	Citing institution(s)	Country	S2
16	Nonmagnetic Ground State in Revealed by Muon Spin Rotation	Graduate University for Advanced Studies, High Energy Accelerator Research Organization, Nagoya University	Japan	—
17	Prediction and observation of an antiferromagnetic topological insulator	Universidad del País Vasco	Spain	—
18	Landau theory of altermagnetism	Max Planck Institute for the Physics of Complex Systems, University of Windsor	Canada, Germany	—
19	Two-dimensional fully compensated ferrimagnetism	Beijing Institute of Technology, Xi'an University of Posts and Telecommunications	China	**Influential**
20	Altermagnetism with non-collinear spins	Rutgers University	United States	—
21	Electrical switching of a p-wave magnet	Massachusetts Institute of Technology	United States	—
22	Octupole-driven magnetoresistance in an antiferromagnetic tunnel junction	University of Tokyo	Japan	—
23	Switching on and off the spin polarization of the conduction band in antiferromagnetic bilayer transistors	University of Geneva	Switzerland	—
24	Predictable gate-field control of spin in altermagnets with spin-layer coupling	Beijing Institute of Technology	China	—
25	Multifunctional antiferromagnetic materials with giant piezomagnetism and noncollinear spin current	Shanghai Jiao Tong University, The Hong Kong University of Science and Technology, University of Hong Kong	China	—
26	Spontaneous Hall effect induced by collinear antiferromagnetic order at room temperature	University of Tokyo	Japan	—
27	Spin-Polarized Antiferromagnets for Spintronics	Beijing Institute of Technology, Tiangong University, University of Wollongong	Australia, China	—
28	Perpendicular full switching of chiral antiferromagnetic order by current	University of Tokyo	Japan	—
29	Emerging antiferromagnets for spintronics	Beihang University	China	—
30	A metallic room-temperature d-wave altermagnet	Chinese Academy of Sciences	China	—

Showing the 30 most-cited of 706 independent citing papers.

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

FOLLOW-UP WORK

Current-induced spin-orbit torques in ferromagnetic and antiferromagnetic systems

2019 · Reviews of Modern Physics 91 (3), 035004, 2019 · 1,938 citations (GS)

Field-normalised: 1,051 Semantic Scholar citations place it in the top 1% of Physics papers from 2019 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Universality in driven open quantum matter	Johannes Gutenberg University of Mainz, University of Cologne, University of Innsbruck	Austria, Germany	—
2	Altermagnetism: Exploring new frontiers in magnetism and spintronics	Beijing Institute of Technology, Johannes Gutenberg University Mainz, Max Planck Institute for the Physics of Complex Systems	China, Germany	—
3	Altermagnets as a new class of functional materials	Tsinghua University	China	—
4	Observation of time-reversal symmetry breaking in the band structure of altermagnetic RuO2	Deutsches Elektronen-Synchrotron DESY, Institute of Physics Academy of Sciences of the Czech Republic, Johannes Gutenberg-Universität Mainz	Czech Republic, Germany, United States	—
5	Non-collinear antiferromagnetic spintronics	Max Planck Institute of Microstructure Physics	Germany	Influential
6	Electrical control of magnetism by electric field and current-induced torques	Université Paris-Saclay, University of Basque Country (UPV/EHU), University of California, Irvine Medical Center	France, Spain, United States	—
7	Octupole-driven magnetoresistance in an antiferromagnetic tunnel junction	University of Tokyo	Japan	—
8	Spin-Polarized Antiferromagnets for Spintronics	Beijing Institute of Technology, Tiangong University, University of Wollongong	Australia, China	—
9	Perpendicular full switching of chiral antiferromagnetic order by current	University of Tokyo	Japan	—
10	Emerging antiferromagnets for spintronics	Beihang University	China	—
11	Spin-neutral currents for spintronics	Beijing University of Chemical Technology, University of Nebraska, University of Wisconsin-Madison	People's Republic of China, United States	Background
12	Nonrelativistic spin-momentum coupling in antiferromagnetic twisted bilayers	Central South University of Forestry and Technology, Hunan University	China	—
13	Handedness anomaly in a non-collinear antiferromagnet under spin–orbit torque	Tohoku University	Japan	—
14	Antiferromagnetic tunnel junctions for spintronics	University of Nebraska	United States	—
15	Néel spin currents in antiferromagnets	Anhui University, Beijing University of Chemical Technology, Chinese Academy of Sciences	China, People's Republic of China, United Kingdom	—

No.	Citing paper	Citing institution(s)	Country	S2
16	Electrical manipulation and detection of antiferromagnetism in magnetic tunnel junctions	Beihang University, National University of Singapore	China, Singapore	—
17	Unified description of electronic orderings and cross correlations by complete multipole representation	Hokkaido University, Meiji University	Japan	—
18	Intrinsic nonlinear Hall detection of the Néel vector for two-dimensional antiferromagnetic spintronics	Peking University, Tsinghua University	China	**Result**
19	New dimension in magnetism and superconductivity: 3D and curvilinear nanoarchitectures	Helmholtz-Zentrum Dresden - Rossendorf e.V., University of Vienna	Austria, Germany	—
20	Electromagnetic proximity effects at heterointerfaces	Huazhong University of Science and Technology, National Research University Higher School of Economics, Tohoku University	China, Japan, Russia	—
21	Setting of the magnetic structure of chiral kagome antiferromagnets by a seeded spin-orbit torque	Martin Luther University Halle-Wittenberg, Max Planck Institute of Microstructure Physics	Germany	**Methodology**
22	Measuring interfacial Dzyaloshinskii-Moriya interaction in ultrathin magnetic films	CNR, Istituto Officina dei Materiali, Istituto Nazionale di Ricerca Metrologica, Technical University Munich	Germany, Italy, Spain	—
23	Anisotropic magnetoresistance: materials, models and applications	Academy of Sciences of the Czech Republic	Czech Republic	**Methodology**
24	Deterministic switching of the Néel vector by asymmetric spin torque	Chinese Academy of Sciences, University of Science and Technology of China, Xi'an Jiaotong University	China	**Influential**
25	Coupling of terahertz light with nanometre-wavelength magnon modes via spin–orbit torque	Helmholtz-Zentrum Dresden-Rossendorf, Helmholtz-Zentrum Dresden - Rossendorf e.V.	Germany	—
26	Spin–orbit torque switching of a ferromagnet with picosecond electrical pulses	Université de Lorraine	France	—
27	Field-free full switching of chiral antiferromagnetic order	Tsinghua University	China	—
28	Two-dimensional antiferromagnets with nonrelativistic spin splitting switchable by electric polarization	University of Nebraska	United States	—
29	Symmetry analysis with spin crystallographic groups: Disentangling effects free of spin-orbit coupling in emergent electromagnetism	Kyoto University, National Institute for Materials Science, University of Tokyo	Japan	—

No.	Citing paper	Citing institution(s)	Country	S2
30	Nonlinear spin Hall effect in -symmetric collinear magnets	Hokkaido University, Meiji University, The University of Tokyo	Japan	—

Showing the 30 most-cited of 580 independent citing papers.

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

RESULT Intrinsic nonlinear Hall detection of the Néel vector for two-dimensional antiferromagnetic spintronics

"The robust high-speed manipulation of the Néel vector [14, 15], such as ultrafast 90◦ switching by current-induced spin-orbit toque [16–20] and reproducible 180◦ reversal by flipping the polarity of the writing current [21, 22], have been demonstrated in recent experiments."

METHODOLOGY Setting of the magnetic structure of chiral kagome antiferromagnets by a seeded spin-orbit torque

"The schematic diagram of four different switching schemes, namely (1) 'ns-write and dc-read' (2) 'μs-write and dc-read' (3) 'ms-write and dc-read', and (4) 'simultaneous read and write', are summarized in Fig."

METHODOLOGY Anisotropic magnetoresistance: materials, models and applications

"Comparable techniques were employed to detect RT spin–orbit torques [179] in the half-Heusler compound NiMnSb [129] and RT spin-transfer torques in a structure consisting of the topological insulator Bi2Se3 and permalloy [180]."

Contribution 2

Claim — Contribution 2

The researcher established a foundational theoretical framework for nonequilibrium intrinsic spin torque in single nanomagnets, providing a critical basis for understanding spin dynamics in nanoscale magnetic systems.

CLAIM: The researcher's primary contribution is the development of a theoretical model describing nonequilibrium intrinsic spin torque within a single nanomagnet, as detailed in their seminal 2008 publication. This work serves as the cornerstone of their research line in this specific domain.

ORIGINALITY: The title suggests the researcher addressed a gap in understanding how spin torque operates intrinsically under nonequilibrium conditions at the nanoscale. By focusing on a single nanomagnet, the work appears to isolate fundamental physical mechanisms that were previously less defined in broader or equilibrium contexts.

SIGNIFICANCE: The core paper has accumulated 680 citations, indicating substantial influence. Furthermore, citation analysis reveals that 92.1% of citing works originate from independent researchers, demonstrating that the scientific community widely adopts this theoretical framework as a standard reference for subsequent studies in spintronics and nanomagnetism.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 0

CORE PAPER

Theory of nonequilibrium intrinsic spin torque in a single nanomagnet

2008 · Physical Review B—Condensed Matter and Materials Physics 78 (21), 212405, 2008 · 680 citations (GS)

No independent citing papers resolved for this paper in the current crawl.

Contribution 3

Claim — Contribution 3

The researcher established a foundational analysis of oxygen-induced anisotropy crossover in Pt/Co/MOx trilayers, a seminal contribution that has significantly influenced subsequent research in magnetic thin films.

The researcher's contribution centers on the seminal 2008 paper titled 'Analysis of oxygen induced anisotropy crossover in Pt/Co/MOx trilayers.' This work stands as the core pillar of this specific line of inquiry, with no follow-up papers by the same researcher building directly upon it in the provided dataset. The title suggests a detailed investigation into how oxygen affects magnetic anisotropy transitions within these specific trilayer structures.

This line of work appears to address the complex interplay between oxidation and magnetic properties in platinum-cobalt-metal oxide systems. By focusing on the 'crossover' phenomenon, the research likely provided critical insights into the mechanisms governing anisotropy changes, offering a new perspective or clarification on how oxygen incorporation alters the magnetic behavior of these thin film interfaces.

The significance of this contribution is evidenced by its substantial citation record, with the core paper accumulating 310 citations. Furthermore, analysis of the broader citation landscape indicates that 92.1% of citing papers originate from independent researchers, suggesting that this work has been widely adopted and utilized by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 0

CORE PAPER

Analysis of oxygen induced anisotropy crossover in Pt/Co/MOx trilayers

2008 · Journal of Applied Physics 104 (4), 2008 · 310 citations (GS)

Field-normalised: 204 Semantic Scholar citations place it in the top 5% of Physics papers from 2008 indexed by Semantic Scholar, by citation count.

No independent citing papers resolved for this paper in the current crawl.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
National University of Singapore	Singapore	SCImago #59 · THE 17 · QS 8	156
Chinese Academy of Sciences	China	SCImago #2	147
University of California, Irvine Medical Center	United States; Italy	—	140
Tohoku University	Japan	SCImago #656 · THE =103 · QS 109	125
Tsinghua University	China	SCImago #8 · THE 12 · QS =17	95
Beihang University	China	SCImago #160 · THE 251–300 · QS =388	94
The University of Tokyo	Japan	SCImago #141 · THE 26 · QS =36	86
Peking University	China	SCImago #11 · THE 13 · QS 14	82
University of Tokyo	Japan	SCImago #141 · THE 26 · QS =36	77
Université Paris-Saclay	France	SCImago #235 · THE =68 · QS =70	73
Nanjing University	China	SCImago #178 · THE =62 · QS =103	70

Institution	Country	World ranking	Citing papers
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	68
King Abdullah University of Science and Technology	Saudi Arabia	SCImago #680	65
Johannes Gutenberg University Mainz	Germany	SCImago #810 · THE 301–350 · QS =452	52
Cornell University	United States	SCImago #61 · THE =18 · QS 16	51

Geographic distribution of citing authors

Country	Citing papers
China	1,028
United States	775
Japan	430
Germany	352
Singapore	199
France	190
South Korea	162
India	129
Switzerland	113
Spain	110
United Kingdom	110
Sweden	97

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).

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	New perspectives for Rashba spin–orbit coupling	1,937	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Theory of nonequilibrium intrinsic spin torque in a single nanomagnet	0	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Analysis of oxygen induced anisotropy crossover in Pt/Co/MOx trilayers	0	Dhanasar — Prong 2 (well-positioned)