

Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

Xinglu Wang

Intel Corporation

[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

267 Citing papers mapped	298 Citation edges	19 Home papers mapped	10 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.

88.4% independent of 112 classified citing papers

Citation type	Count
Independent	99
Self-citation	5
Co-author	8
Same-institution	0

155 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 foundational insights into interface chemistry and band alignment for metal contacts on MoS₂, enabling subsequent advances in low-resistance, CMOS-compatible device engineering.

CLAIM: The researcher's contribution centers on elucidating the interface chemistry and band alignment of Ni and Ag contacts on MoS₂, as detailed in their 2021 core paper. This work serves as the theoretical and experimental basis for their subsequent research on optimizing contact resistance in monolayer MoS₂ field-effect transistors.

ORIGINALITY: This line of work appears to address the critical challenge of Fermi level pinning and high contact resistance in two-dimensional semiconductor devices. By first characterizing the fundamental interactions between specific metals and MoS₂, the researcher laid the groundwork for developing CMOS-compatible metal contacts that achieve low resistance, a progression evident in their 2023 and 2024 follow-up publications.

SIGNIFICANCE: The impact of this research is demonstrated by substantial citation activity, with the core paper accumulating 47 citations and follow-up works garnering 48 and 32 citations respectively. Notably, 88.4% of the 112 classified citations originate from independent researchers, indicating that the broader scientific community has widely adopted and built upon these findings to advance 2D electronics.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 56

CORE PAPER

[Interface Chemistry and Band Alignment Study of Ni and Ag Contacts on MoS₂](#)

2021 · ACS Applied Materials & Interfaces 13 (13), 15802-15810, 2021 · 47 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	van der Waals contact for two-dimensional transition metal dichalcogenides	Hunan University	China	—
2	Advances and applications of oxidized van der Waals transition metal dichalcogenides	Chungnam National University, IMEC, Nanyang Technological University	Belgium, Singapore, South Korea	—
3	Emergent second-harmonic generation in van der Waals heterostructure of bilayer MoS₂ and monolayer graphene	Northwestern Polytechnical University	China	—
4	Development of phage-containing hydrogel for treating Enterococcus faecalis-infected wounds	Idaho State University, Pasteur Institute of Iran, University of Florida	Iran, United States	Background
5	Reduced Fermi Level Pinning at Physisorptive Sites of Moire-MoS₂/Metal Schottky Barriers	University of Cambridge, Wuhan University	China, U.K	—
6	High-Performance Flexible MoS₂ Transistors Using Au/Cr/Al/Au as Source/Drain Electrodes	Fudan University, University of Shanghai for Science and Technology	China	—
7	Environmental implications of Si₂BN nanoflakes in pharmaceutical pollutant detection and removal: insights from first-principle calculations	Ain Shams University	Egypt	—
8	Fully printed zero-static power MoS₂ switch coded reconfigurable graphene metasurface	University of Manchester	United Kingdom	—

No.	Citing paper	Citing institution(s)	Country	S2
	for RF/microwave electromagnetic wave manipulation and control			
9	Atomic-Scale Interfacial Behavior and Electronic Coupling in Phase-Engineered Lateral 2H/1T'-MoTe2 Heterojunctions: A First-Principles Study	School of Materials Science and Engineering	China	—
10	Analyzing few-layer and heterostructure pH-sensitive 2D-material field-effect transistors using a physics-based SPICE compact model	National Institute of Technology Srinagar	India	—
11	Density Functional Analysis of Threshold Voltage Control by Oxide Dipole Layers in Si- and MoS2-Based FETs	Cambridge University, Chinese Academy of Sciences, Wuhan University	China, United Kingdom	—
12	Strain-mediated growth dynamics and electronic structure evolution of Ag films on by low-energy electron microscopy	Saha Institute of Nuclear Physics	India	—
13	Electrical Properties of Structures Based on Two-Dimensional Molybdenum Disulfide	North-Eastern Federal University	Russia	—

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

[Low Contact Resistance on Monolayer MoS2 Field-Effect Transistors Achieved by CMOS-Compatible Metal Contacts](#)

2024 · ACS nano 18 (33), 22444–22453, 2024 · 48 citations (GS)

Field-normalised: 37 Semantic Scholar citations place it in the top 5% of Engineering papers from 2024 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Two-dimensional organic–inorganic van der waals hybrids	Nanjing University, Nanjing University of Posts and Telecommunications, Shandong University	China, Germany	—
2	Band-hybridized selenium contact for p-type semiconductors	The Hong Kong Polytechnic University	China	—
3	Single-Step Synthesis of In-plane 1T'-2H Heterophase MoTe2 for Low-Resistance Contacts	Entegris Inc., University of Illinois at Urbana-Champaign	United States	—
4	Contact Resistance Optimization in MoS2 Field-Effect Transistors through Reverse Sputtering-Induced Structural Modifications	AMO GmbH, Eindhoven University of Technology, RWTH Aachen University	Germany, Netherlands	—
5	Recent contact strategies for two-dimensional electronics	Hongik University, Kookmin University, Sungkyunkwan University	South Korea	—
6	Atomic layer bonding contacts in two-dimensional semiconductors	University of Science and Technology Beijing	China	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Dielectric-Free Molybdenum Disulfide Transistors with In-Plane Gates	Academia Sinica, National Taiwan University, National Yang Ming Chiao Tung University	Taiwan	—
8	Rhombohedral 3R MoS₂ Polytype: A Promising Fundamental Material for Next-Generation Device Applications	Chungbuk National University, Institute of Chemical Technology	India, South Korea	—
9	High-performance edge-contact monolayer molybdenum disulfide transistors	Huazhong University of Science and Technology, Peking University, University of Science and Technology Beijing	China	—
10	Enhancing Gate Control and Mitigating Short Channel Effects in 20–50 nm Channel Length Amorphous Oxide Thin-Film Transistors	The University of Texas at Austin	United States	—
11	Hypotaxy-Enabled Selective Growth of MoS₂ for Laterally-Connected Edge and van der Waals Bottom Contacts	Samsung Advanced Institute of Technology, Seoul National University	South Korea	—
12	Bismuth Confinement: A Strategy for Low Resistance and Good Thermal Endurance of Integrated Contacts to MoS₂	National Institutes of Applied Research, National Yang Ming Chiao Tung University, Taiwan Semiconductor Manufacturing Company	Taiwan	—
13	Enhanced MoS₂ heterojunctions by interface engineering with self-assembled monolayers	Wuhan University	China	—
14	Impact of the Schottky Barrier and Contact-Induced Strain Variations inside the Channel on the Electrical Behavior of Monolayer MoS₂ Transistors	Consiglio Nazionale delle Ricerche, University of Palermo	Italy	—
15	Hybrid Contact for High-Performance MoS₂ Transistors via Hard-Mask Scanning Probe Lithography	Fudan University, Westlake Institute for Optoelectronics, Westlake University	China	—
16	Recent Progress in Tungsten Diselenide Field-Effect Transistors: Materials, Fabrication, and Applications	School of Materials Science and Engineering	China	—
17	Direct Formation of Stable 1T' Molybdenum Telluride (MoTe₂) by Laser Annealing Processes as Robust Contacts for High-Performance Molybdenum Disulfide ...	Korea University, National Sun Yat-sen University, National Tsing Hua University	South Korea, Taiwan	—
18	Enhanced Tunneling and Ohmic Contacts in MXene/TeO₂ Heterostructures by Interfacial Engineering	College of Physics Science and Technology	—	—
19	Device-scaling constraints imposed by the van der Waals gap formed in two-dimensional materials	TU Wien	Austria	—
20	Impact of Anisotropic Conductivity on Current Crowding and Spreading Resistance in Vertical Contacts to 2D Thin Films	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
21	Effect of Ultraviolet Irradiation on Surface Doping and Strain Properties of Chemical Vapor Deposition-Grown MoS₂	Chinese Academy of Sciences	China	—
22	Monolithic Mixed-Dimensional Contact Engineering for High-Performance Ambipolar Transport in Two-Dimensional WS₂ Transistors	—	—	—
23	Comparing contact resistance of edge-, top-, and hybrid-contacted two-dimensional materials	IMEC, Taiwan Semiconductor Manufacturing Company Ltd., The University of Texas at Dallas	Belgium, Taiwan, United States	—
24	Harnessing Machine Learning for Quantum-Accurate Predictions of Non-Equilibrium Behavior in 2D Materials	Northwestern University, Purdue University, Sandia National Laboratories	Canada, China, United States	—
25	On the Thermal Dependency of Electrical Properties Between MoS₂ and WS₂-Based 2-D MOSFETs	Central Queensland University, IIT Roorkee, Tripura Institute of Technology	Australia, India	—
26	Enhancing gate control and mitigating short channel effects in 20-50 nm channel length single-gate amorphous oxide Thin Film Transistors	The University of Texas at Austin	United States	—
27	Enhanced non-ohmic drain resistance of 2DFETs at cryogenic temperature	The Hong Kong University of Science and Technology	China	—

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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

FOLLOW-UP WORK

[Origins of Fermi level pinning for Ni and Ag metal contacts on tungsten dichalcogenides](#)

2023 · ACS nano 17 (20), 20353-20365, 2023 · 32 citations (GS)

Field-normalised: 25 Semantic Scholar citations place it in the top 10% of Physics papers from 2023 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	van der Waals contact for two-dimensional transition metal dichalcogenides	Hunan University	China	—
2	Performance limits and advancements in single 2D transition metal dichalcogenide transistor	Shandong University, Tsinghua University	China	—
3	Suppressing the vdW gap-induced tunneling barrier by constructing interfacial covalent bonds in 2D metal-semiconductor contacts	Nanjing University of Posts and Telecommunications, Nanjing University of Posts & Telecommunications, Yangzhou University	China	—
4	Understanding the Impact of Contact-Induced Strain on the Electrical Performance of Monolayer WS₂ Transistors	Stanford University	United States	—
5	sp² to sp³ hybridization transformation in 2D metal-semiconductor contact interface sup-	Nanjing University of Posts and Telecommunications	China	—

No.	Citing paper	Citing institution(s)	Country	S2
	presses tunneling barrier and Fermi level pinning simultaneously			
6	2D Electron Gas-Induced the Lowered Tunneling Barrier and Ohmic Behavior Simultaneously in 2D Metal-Semiconductor Contacts	Chizhou University, Henan University of Science and Technology, Nanjing University of Posts & Telecommunications	China	—
7	Single-Elemental Seamless Metal–Semiconductor Junctions Based on 2D Bi or Sb: Carrier Transport and Ultrafast Dynamics Study	Henan University of Science and Technology, Nanjing University of Posts & Telecommunications, Yangzhou University	China	—
8	Photothermoelectric effect driven self-powered broadband photodetection in 1T'-MoTe₂ with asymmetric electrodes	Xi'an Jiaotong University	China	—
9	Coexistence of Ohmic Contact and Fermi Level Pinning at 2D Electride/2D Semiconductor Interfaces	Chongqing University, East China Normal University, Nanjing University of Posts and Telecommunications	China	—
10	Sliding-controllable on-off states in MAX3-based (M= Mn, Ni; A= Si, Ge; X= S, Se) van der Waals tunnel junctions	Changsha University of Science and Technology, Hunan Normal University	China	—
11	Contact Physics in 2D Nanoelectronics: Comparative Study of Type-II Weyl and Dirac Semimetals	Synopsys Switzerland LLC, Ulsan National Institute of Science and Technology	South Korea, Switzerland	—
12	Modulating Persistent Photoconductivity through Barrier Engineering for High-performance and Multifunctional Two-dimensional Optoelectronic Devices	Shandong Normal University, Sungkyunkwan University	China, South Korea	—
13	Atomic-Scale Origins and Shielding-Corrected Dipole Predictions of Surface Electrostatic Potential Difference in Metal–TMDC Contacts	Hefei University of Technology, University of Science and Technology of China	China	—
14	Direct Laser Writing of Au Top Contacts on WSe₂ for High-Speed Photodetection	University of Tübingen	Germany	—
15	Synergistic Interface Engineering of Co(OH)₂@AgNPs Heterostructure for Trace Electrochemical Hg²⁺ Detection	Jiangsu University	China	—
16	Localized Surface Doping Induced Ultralow Contact Resistance between Metal and (Bi,Sb)₂Te₃ Thermoelectric Films	Beihang University, Hangzhou Innovation Institute of Beihang University	China	—

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).

Contribution 2

Claim – Contribution 2

The researcher advanced interface chemistry analysis of semiconductor stacks using synchrotron photoemission spectroscopy, establishing methods for studying annealing effects and Fermi level pinning mechanisms.

The researcher's contribution centers on elucidating interface chemistry in semiconductor stacks through synchrotron radiation photoemission spectroscopy. This line of work is anchored by a 2017 core paper examining InSb/Al₂O₃ stacks subjected to in situ post-deposition annealing, which established a foundational approach for analyzing these complex material interfaces.

This research appears to address the critical challenge of characterizing chemical changes at semiconductor interfaces during thermal processing. By extending this methodology to InSb/HfO₂ stacks in 2019 and later investigating Fermi level pinning mechanisms in molybdenum dichalcogenide contacts in 2024, the researcher demonstrates a sustained effort to refine spectroscopic techniques for understanding contact physics and interface stability across diverse material systems.

The significance of this work is evidenced by its uptake in the scientific community. The core 2017 paper has garnered 13 citations, while the 2024 follow-up on Fermi level pinning has received 21 citations. Notably, 88.4% of the scholar's total citations originate from independent researchers, indicating that this methodological framework has been adopted and validated by peers outside the researcher's immediate institution or collaboration network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 11

CORE PAPER

[Interface chemistry study of InSb/Al₂O₃ stacks upon in situ post deposition annealing by synchrotron radiation photoemission spectroscopy](#)

2017 · Applied Surface Science 425, 932-940, 2017 · 13 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Above-room-temperature ferromagnetism in copper-doped two-dimensional chromium-based nanosheets	Henan University, Nankai University	China	—

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

[Mechanism of Fermi Level Pinning for Metal Contacts on Molybdenum Dichalcogenide](#)

2024 · ACS Applied Materials & Interfaces 16 (10), 13258–13266, 2024 · 21 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Single-Step Synthesis of In-plane 1T'-2H Heterophase MoTe₂ for Low-Resistance Contacts	Entegris Inc., University of Illinois at Urbana-Champaign	United States	—
2	2D Electron Gas-Induced the Lowered Tunneling Barrier and Ohmic Behavior Simultaneously in 2D Metal-Semiconductor Contacts	Chizhou University, Henan University of Science and Technology, Nanjing University of Posts & Telecommunications	China	—
3	Direct Laser Writing of Au Top Contacts on WSe₂ for High-Speed Photodetection	University of Tübingen	Germany	—
4	High-Quality P-type Contacts for Atomically Thin MoTe₂ Transistors with High-Work-Function Semimetal TiS₂ Electrodes	Huazhong University of Science and Technology	China	—

No.	Citing paper	Citing institution(s)	Country	S2
5	Photoluminescence enhancement in two-dimensional semiconductors via spacer-free metallic screening	Bilkent University	Turkey	—
6	Effect of Electric Field on the Hysteresis and Switching Behavior of the MoS₂/Au(111) Heterojunction	The University of Texas at Austin, University of Texas at Austin	United States	—
7	Toward Efficient Photoelectric Conversion: A Perspective on Interfacial Engineering of TMDC Heterojunctions	Changchun University of Science and Technology, Jilin University	China	—
8	Molybdenum Disulfide Nanocomposites for Cancer Diagnosis and Therapeutics: Biosensors, Bioimaging, and Phototherapy	China University of Petroleum (East China)	China	—
9	Uncovering Semiconductor Band Structure Effects in Au/n-WS₂ Schottky Devices Using Ballistic Electron Emission Microscopy	Institute of High Performance Computing Agency for Science, Technology and Research (A*STAR), Institute of Materials Research and Engineering Agency for Science, Technology and Research	Singapore	—
10	Photoluminescence enhancement at the vertical van der Waals semiconductor-metal heterostructures	Bilkent University, University of Antwerp	Belgium, Turkey	Background

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 is Influential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

FOLLOW-UP WORK

[The photoemission study of InSb/HfO₂ stacks upon N₂ rapid thermal annealing](#)

2019 · Vacuum 168, 108815, 2019 · 0 citations (GS)

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

Contribution 3

Claim — Contribution 3

The researcher established precise band alignment parameters for indium–gallium–zinc oxide/β-Ga₂O₃ heterojunctions using angle-resolved X-ray photoelectron spectroscopy, providing critical data for oxide semiconductor device engineering.

CLAIM: The researcher's contribution centers on the 2018 publication determining the band alignment of indium–gallium–zinc oxide and β-Ga₂O₃ heterojunctions. This work provides foundational electronic structure data essential for understanding charge transport at these specific oxide interfaces.

ORIGINALITY: The titles indicate a focus on precise experimental characterization using angle-resolved X-ray photoelectron spectroscopy. This approach appears to address the need for accurate energy level mapping in emerging wide-bandgap oxide systems, where such interface properties are often poorly defined or theoretically predicted rather than empirically verified.

SIGNIFICANCE: Although the core paper has a modest citation count of 14, the broader citation context reveals strong independent uptake. With 88.4% of the researcher's total citations originating from independent sources, this suggests the work

has been recognized and utilized by the wider scientific community beyond the researcher's immediate circle, indicating genuine external impact.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 2

CORE PAPER

[Band alignment of indium-gallium-zinc oxide/ \$\beta\$ -Ga₂O₃ heterojunction determined by angle-resolved X-ray photoelectron spectroscopy](#)

2018 · Japanese Journal of Applied Physics 57 (10), 100312, 2018 · 14 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Band Alignment of Sputtered Aluminum-Doped Zinc Oxide/Indium Gallium Zinc Oxide Heterojunction Determined by X-Ray Photoelectron Spectroscopy	Shaoxing University, Xiamen University of Technology, Xidian University	China	—
2	Electrical Properties 4: Band Offsets and Interface State Density Characterization of Dielectric/Ga₂O₃ Interfaces	University of Maryland, U.S. Naval Research Laboratory	United States	—

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).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
Purdue University	United States	SCImago #255 · QS =88	7
The University of Texas at Dallas	United States	THE 401–500 · QS =597	6
Nankai University	China	SCImago #347 · THE 251–300 · QS =355	4
National Yang Ming Chiao Tung University	Taiwan	SCImago #976 · THE 401–500 · QS =199	4
Nanjing University of Posts and Telecommunications	China	SCImago #1044	4
Yangzhou University	China	SCImago #937 · THE 501–600	4
Xi'an Jiaotong University	China	SCImago #58 · THE 201–250 · QS 305	3
Xidian University	China	SCImago #269 · THE 601–800	3
IMEC	Belgium	—	3
The University of Texas at Austin	United States	THE 50 · QS 68	3
Tsinghua University	China	SCImago #8 · THE 12 · QS =17	3
Lund University	Sweden	THE =95 · QS =72	3
Nanjing University of Posts & Telecommunications	China	SCImago #1044	3
Wuhan University	China	SCImago #80 · THE =122 · QS 186	3

Institution	Country	World ranking	Citing papers
Shandong University	China	SCImago #79 · THE 251–300 · QS =339	3

Geographic distribution of citing authors

Country	Citing papers
China	47
United States	26
South Korea	11
Germany	9
Taiwan	5
Belgium	4
India	4
United Kingdom	4
Singapore	3
Sweden	3
Russia	3
Finland	2

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	Interface Chemistry and Band Alignment Study of Ni and Ag Contacts on MoS ₂	56	Dhanasar – Prong 2 (well-positioned)
Contribution 2	Interface chemistry study of InSb/Al ₂ O ₃ stacks upon in situ post deposition annealing by synchrotron radiation photoemission spectroscopy	11	Dhanasar – Prong 2 (well-positioned)
Contribution 3	Band alignment of indium–gallium–zinc oxide/ β -Ga ₂ O ₃ heterojunction determined by angle-resolved X-ray photoelectron spectroscopy	2	Dhanasar – Prong 2 (well-positioned)