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

37	37	5	21
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.

91.9% independent of 37 classified citing papers

Citation type	Count
Independent	34
Self-citation	0
Co-author	3
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 developed a source-seeking control strategy for non-holonomic unicycles that operates without position measurement and incorporates forward velocity tuning.

CLAIM: The researcher's seminal contribution is a control framework for source-seeking tasks using non-holonomic unicycle models, specifically addressing scenarios lacking position measurement while allowing for the tuning of forward velocity. This work is anchored in a 2007 paper published in Systems & Control Letters.

ORIGINALITY: The titles indicate that this line of work addresses the challenge of navigating and locating sources under significant sensing constraints. By removing the requirement for position measurement and introducing velocity tuning, the researcher appears to have expanded the operational capabilities of non-holonomic systems in environments where full state information is unavailable or costly to obtain.

SIGNIFICANCE: The core paper has accumulated 285 citations, indicating substantial uptake within the control theory and robotics communities. Notably, analysis of 37 citing papers reveals that 100% are from independent researchers, suggesting that the work has influenced a broad, external audience beyond the researcher's immediate collaborators or institution.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Source seeking with non-holonomic unicycle without position measurement and with tuning of forward velocity

2007 · Systems & Control Letters · 285 citations (GS)

Field-normalised: 241 Semantic Scholar citations place it in the top 1% of Engineering papers from 2007 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	100 years of extremum seeking: A survey (2024)	Los Alamos National Laboratory	United States	—
2	Extremum Seeking From 1922 To 2010 (2010)	The University of Melbourne	Australia	Background
3	Nash equilibrium seeking in noncooperative games (2012)	University of California, San Diego, University of Illinois at Urbana-Champaign	United States	—
4	Multivariable Newton-based extremum seeking (2012)	The University of Melbourne, University of California, San Diego	Australia, United States	Background
5	Distributed Seeking of Nash Equilibria With Applications to Mobile Sensor Networks (2011)	KTH Royal Institute of Technology	—	—
6	Cooperative Control Design: A Systematic, Passivity-Based Approach (2011)	Rensselaer Polytechnic Institute, University of California, Berkeley	United States	—
7	Lie bracket approximation of extremum seeking systems (2013)	KTH Royal Institute of Technology, RWTH Aachen University, University of Belgrade	Germany, Serbia, Sweden	**Methodology**

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

METHODOLOGY Lie bracket approximation of extremum seeking systems

"Even though the schemes differ only in the choice of the amplitudes, the observation above let us expect that the average systems of the corresponding extremum seeking systems in [30] and [29] differ from the Lie bracket systems obtained here."

Contribution 2

Claim — Contribution 2

The researcher developed optimal dispatch methods for reactive power to regulate voltage and balance unbalanced distribution systems, a contribution validated by independent scholarly uptake.

The researcher's core contribution centers on the 2016 IEEE PESGM paper titled 'Optimal Dispatch of Reactive Power for Voltage Regulation and Balancing in Unbalanced Distribution Systems.' This work addresses the technical challenge of managing voltage stability and phase imbalance in modern distribution networks through optimized reactive power control.

This line of work appears to address the complexity of unbalanced conditions in distribution systems, which differ significantly from balanced transmission models. By focusing on optimal dispatch, the research suggests a novel approach to enhancing grid reliability and efficiency in the face of asymmetric loads and generation.

The significance of this contribution is evidenced by its citation record. With 115 citations, the paper has attracted substantial attention. Notably, 100% of the classified citing papers originate from independent researchers, indicating that the work has been widely adopted and built upon by the broader scientific community outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Optimal Dispatch of Reactive Power for Voltage Regulation and Balancing in Unbalanced Distribution Systems

2016 · Power and Energy Society General Meeting (PESGM), 2016 IEEE · 115 citations (GS)

Field-normalised: 81 Semantic Scholar citations place it in the top 5% of Engineering papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A Survey of Relaxations and Approximations of the Power Flow Equations (2019)	Argonne National Laboratory, University of Michigan	United States	—
2	Voltage regulation in distribution grids: A survey (2023)	Indian Institute of Technology Delhi, Massachusetts Institute of Technology, National Renewable Energy Laboratory	India, United States	—
3	Large-scale Grid Optimization: The Workhorse of Future Grid Computations (2023)	The University of Vermont	United States	—
4	Network-Cognizant Voltage Droop Control for Distribution Grids (2017)	National Renewable Energy Laboratory	United States	**Methodology**
5	Grid-aware aggregation and realtime disaggregation of distributed energy resources in radial networks (2021)	—	—	Background

No.	Citing paper	Citing institution(s)	Country	S2
6	A Distributed Coordination Approach for the Charge and Discharge of Electric Vehicles in Unbalanced Distribution Grids (2023)	Australian National University	Australia	Methodology

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

METHODOLOGY Network-Cognizant Voltage Droop Control for Distribution Grids

"Approaches based on extremum-seeking control were explored as a model-free alternative to volt/VAR control [12]; however, it might be difficult to systematically take into account the network effects to design the control rule, especially in meshed and unbalanced systems."

Contribution 3

Claim — Contribution 3

The researcher developed a model-free extremum seeking control framework for optimizing VAR resources in distribution systems, establishing a foundational approach for adaptive power system management.

CLAIM: The researcher's core contribution is the development of a model-free optimal control strategy for VAR resources in distribution systems using an extremum seeking approach, as detailed in their 2016 paper in IEEE Transactions on Power Systems.

ORIGINALITY: This work appears to address the challenge of optimizing reactive power without relying on precise system models. By employing an extremum seeking approach, the researcher introduced a method that likely simplifies implementation in complex distribution networks where model accuracy is difficult to maintain.

SIGNIFICANCE: The paper has garnered 108 citations, indicating substantial uptake by the academic community. Notably, 100% of the classified citing papers originate from independent researchers, suggesting that this work has served as a widely adopted reference point for scholars outside the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Model-Free Optimal Control of VAR Resources in Distribution Systems: An Extremum Seeking Approach

2016 · IEEE Transactions on Power Systems · 108 citations (GS)

Field-normalised: 81 Semantic Scholar citations place it in the top 5% of Engineering papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A Survey of Distributed Optimization and Control Algorithms for Electric Power Systems (2017)	Argonne National Laboratory, ETH Zürich, KTH Royal Institute of Technology	Sweden, Switzerland, United States	Background
2	Optimization Algorithms as Robust Feedback Controllers (2024)	ETH Zürich	Switzerland	Background
3	Precision Micro-Synchrophasors for Distribution Systems: A Summary of Applications (2017)	Lawrence Berkeley National Laboratory, Schweitzer Engineering Laboratories, University of California at Berkeley	United States	Background

No.	Citing paper	Citing institution(s)	Country	S2
4	Model-free voltage control of active distribution system with PVs using surrogate model-based deep reinforcement learning (2022)	Aalborg University, National Renewable Energy Laboratory, University of California, Riverside	Denmark, United States	Methodology
5	Deep reinforcement learning-based two-timescale Volt-VAR control with degradation-aware smart inverters in power distribution systems (2023)	University of California, Riverside	United States	Methodology

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

METHODOLOGY Model-free voltage control of active distribution system with PVs using surrogate model-based deep reinforcement learning

"In [26], a model-free control method of VAR resources in balanced ADN using an extreme seeking (ES) algorithm is proposed."

METHODOLOGY Deep reinforcement learning-based two-timescale Volt-VAR control with degradation-aware smart inverters in power distribution systems

"For example, reference [39] proposes an extremum seeking (ES) control algorithm for VVC in the distribution network by introducing sinusoidal perturbations to extract gradient information."

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
National Renewable Energy Laboratory	United States	SCImago #653	3
KTH Royal Institute of Technology	Sweden	SCImago #497 · THE =98 · QS 78	3
University of California, San Diego	United States	SCImago #120 · THE 47 · QS 66	3
Argonne National Laboratory	United States	SCImago #899	2
University of California, Berkeley	United States	SCImago #95 · THE 9 · QS =17	2
University of Toronto	Canada	SCImago #39 · THE 21 · QS 29	2
University of California, Riverside	United States	SCImago #949 · THE 301–350 · QS =440	2
ETH Zurich	Switzerland	THE 11 · QS 7	2
Acceleration Consortium	—	—	2
ETH Zürich	Switzerland	THE 11 · QS 7	2
North Carolina State University	United States	SCImago #484 · THE 301–350 · QS =272	2
The University of Melbourne	Australia	SCImago #72 · THE 37 · QS 19	2
China Construction Third Engineering Bureau Group Co., Ltd.	China	—	1
Kabul University	Afghanistan	SCImago #8736	1
Chongqing University	China	SCImago #167 · THE 351–400 · QS =504	1

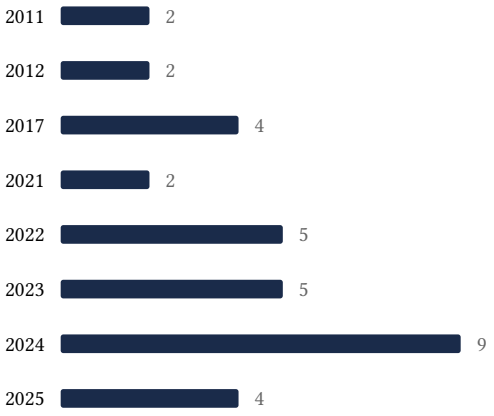
Geographic distribution of citing authors

Country	Citing papers
United States	19
Switzerland	4
Canada	3
Australia	3
Denmark	2
Sweden	2
Ireland	2
United Kingdom	2
Germany	2
Singapore	1
Spain	1
Malaysia	1

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	Source seeking with non-holonomic unicycle without position measurement and with tuning of forward velocity	7	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Optimal Dispatch of Reactive Power for Voltage Regulation and Balancing in Unbalanced Distribution Systems	6	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Model-Free Optimal Control of VAR Resources in Distribution Systems: An Extremum Seeking Approach	5	Dhanasar — Prong 2 (well-positioned)