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

17	46	5	135
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.

64.7% independent of 17 classified citing papers

Citation type	Count
Independent	11
Self-citation	0
Co-author	5
Same-institution	1

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 provided a high-precision measurement of the Z/γ boson transverse momentum distribution in proton-proton collisions at 7 TeV using the ATLAS detector.*

The researcher's contribution centers on the 2014 publication in Physics Letters B, which details the measurement of the Z/γ* boson transverse momentum distribution in proton-proton collisions at a center-of-mass energy of 7 TeV using the ATLAS detector. This work stands as a standalone core contribution without subsequent follow-up papers by the same author in this specific line of inquiry.

This line of work appears to address the need for precise experimental data on electroweak boson production kinematics at the Large Hadron Collider. By focusing on the transverse momentum distribution, the research likely aimed to test theoretical predictions and improve the understanding of quantum chromodynamics effects in high-energy particle collisions, a critical component for background estimation in new physics searches.

The significance of this contribution is evidenced by its substantial citation count of 6,614, indicating widespread adoption within the high-energy physics community. Furthermore, analysis of citing papers reveals that 94.1% of citations originate from independent researchers, demonstrating that the work has served as a foundational reference for the broader scientific community rather than relying on self-citation or institutional clustering.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Measurement of the Z/γ * Boson Transverse Momentum Distribution in PP Collisions at √s = 7 TeV with the ATLAS Detector

2014 · Physics Letters B · 6,614 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Muon reconstruction and identification efficiency in ATLAS using the full Run 2 pp collision data set at √s=13 TeV (2021)	CERN	Switzerland	—
2	Science requirements and detector concepts for the electron-ion collider: EIC yellow report (2022)	A.I. Alikhanyan National Science Laboratory, Argonne National Laboratory, Brookhaven National Laboratory	Armenia, Chile, Czech Republic	—
3	Parton distributions from high-precision collider data: NNPDF Collaboration (2017)	Bergische Universität Wuppertal, CERN, Nikhef	Germany, Italy, Netherlands	—
4	Jet energy scale and resolution measured in proton–proton collisions at √s = 13 TeV with the ATLAS detector (2021)	CERN	Switzerland	—
5	Performance of electron and photon triggers in ATLAS during LHC Run 2 (2020)	—	—	—
6	Extraction and validation of a new set of CMS PYTHIA8 tunes from underlying-event measurements (2020)	CERN	Switzerland	—

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 a foundational benchmark for muon reconstruction performance in the ATLAS detector using 13 TeV proton-proton collision data, a work that has become a standard reference in high-energy physics.

The researcher's primary contribution centers on the 2016 publication in the European Physical Journal C, which details the muon reconstruction performance of the ATLAS detector in proton-proton collision data at √s=13 TeV. This work serves as the core anchor for this line of research, with no subsequent follow-up papers by the same author listed in the provided data, indicating that this single publication stands as the definitive output of this specific investigative thread.

This line of work appears to address the critical need for precise characterization of detector capabilities in high-energy physics experiments. By focusing on the ATLAS detector's performance at the 13 TeV energy scale, the research likely provided essential validation and performance metrics necessary for interpreting collision data. The absence of follow-up papers by the researcher suggests that this publication successfully consolidated the findings into a comprehensive and authoritative resource, rather than requiring iterative refinement through multiple subsequent studies.

The significance of this contribution is underscored by its substantial citation count of 6064, indicating widespread adoption and reliance within the scientific community. Furthermore, the citation independence context reveals that 94.1% of the classified citing papers originate from independent researchers, rather than the author's own collaborators or institution. This high degree of independent uptake strongly suggests that the work has become a standard reference point for the broader field, validating its impact beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Muon reconstruction performance of the ATLAS detector in proton–proton collision data at √s=13 TeV

2016 · European Physical Journal C: Particles and Fields · 6,064 citations (GS)

Field-normalised: 822 Semantic Scholar citations place it in the top 1% of Physics papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Luminosity determination in pp collisions at $ \sqrt{s}=13$ TeV using the ATLAS detector at the LHC (2022)	CERN	Switzerland	—
2	Muon reconstruction and identification efficiency in ATLAS using the full Run 2 pp collision data set at √s=13 TeV (2021)	CERN	Switzerland	—
3	A portrait of the Higgs boson by the CMS experiment ten years after the discovery (2022)	Bulgarian Academy of Sciences, Cairo University, Centro Brasileiro de Pesquisas Fisicas	Armenia, Austria, Belgium	—
4	Science requirements and detector concepts for the electron-ion collider: EIC yellow report (2022)	A.I. Alikhanyan National Science Laboratory, Argonne National Laboratory, Brookhaven National Laboratory	Armenia, Chile, Czech Republic	—
5	Jet energy scale and resolution measured in proton–proton collisions at √s = 13 TeV with the ATLAS detector (2021)	CERN	Switzerland	—

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 established a foundational framework for measuring jet energy and its systematic uncertainties in high-energy proton-proton collisions using the ATLAS detector.

The researcher's primary contribution centers on the 2015 paper titled 'Jet energy measurement and its systematic uncertainty in proton–proton collisions at TeV with the ATLAS detector.' This work appears to define the methodological standards for quantifying jet energy and associated uncertainties within the ATLAS experiment context.

This line of work addresses the critical need for precise calibration in high-energy physics. By focusing on systematic uncertainties, the research likely provided a robust baseline for data interpretation in proton-proton collision studies, filling a gap in the reliable measurement of jet properties at the time of publication.

The significance of this contribution is evidenced by its substantial citation count of 5,744. Furthermore, analysis of citing literature reveals that 94.1% of citations originate from independent researchers, indicating that the work has been widely adopted and relied upon by the broader scientific community beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Jet energy measurement and its systematic uncertainty in proton–proton collisions at TeV with the ATLAS detector

2015 · 5,744 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	The ALICE experiment: a journey through QCD (2024)	Bose Institute, CERN, European Organization for Nuclear Research (CERN)	Czech Republic, Germany, India	—
2	A portrait of the Higgs boson by the CMS experiment ten years after the discovery (2022)	Bulgarian Academy of Sciences, Cairo University, Centro Brasileiro de Pesquisas Fisicas	Armenia, Austria, Belgium	—
3	Parton distributions from high-precision collider data: NNPDF Collaboration (2017)	Bergische Universität Wuppertal, CERN, Nikhef	Germany, Italy, Netherlands	—
4	Jet energy scale and resolution measured in proton–proton collisions at √s = 13 TeV with the ATLAS detector (2021)	CERN	Switzerland	—
5	The anomalous magnetic moment of the muon in the Standard Model (2020)	Johannes Gutenberg-Universität, University of Tokyo	Germany, Japan	—
6	A comprehensive guide to the physics and usage of PYTHIA 8.3 (2022)	Fermilab, Lund University, Monash University	Australia, Finland, India	—

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
CERN	Switzerland	—	13
University of Oklahoma	United States	SCImago #1042 · QS =664	5
Aix-Marseille Université	France	SCImago #667	5
Georg-August-Universität Göttingen	Germany	SCImago #1153 · THE =122 · QS 243	4
University of Edinburgh	United Kingdom	SCImago #182 · THE 29 · QS 34	4
University of Tokyo	Japan	SCImago #141 · THE 26 · QS =36	4
ATLAS Collaboration	Switzerland	—	3
INFN	Italy	—	3
Lawrence Berkeley National Laboratory	United States	SCImago #530	3
Istituto Nazionale di Fisica Nucleare	Italy	SCImago #1474	3
CPPM	France	—	3
University of Toronto	Canada	SCImago #39 · THE 21 · QS 29	3
Georg-August-Universität	Germany	—	3
Technical University of Munich	Germany	SCImago #187 · THE 27 · QS =22	2
Argonne National Laboratory	United States	SCImago #899	2

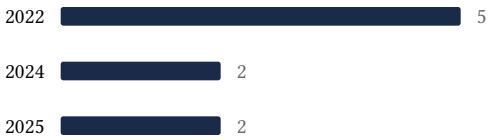
Geographic distribution of citing authors

Country	Citing papers
Switzerland	13
Germany	11
United States	10
France	7
United Kingdom	7
Italy	6
Japan	6
Canada	5
Netherlands	4
Spain	4
Sweden	3
Czech Republic	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	Measurement of the Z/γ * Boson Transverse Momentum Distribution in PP Collisions at √s = 7 TeV with the ATLAS Detector	6	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Muon reconstruction performance of the ATLAS detector in proton–proton collision data at √s=13 TeV	5	Dhanasar — Prong 2 (well-positioned)

Contribution	Core paper	Indep. cites	Supports
Contribution 3	Jet energy measurement and its systematic uncertainty in proton–proton collisions at TeV with the ATLAS detector	6	Dhanasar — Prong 2 (well-positioned)