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

42	44	5	258
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.

83.3% independent of 42 classified citing papers

Citation type	Count
Independent	35
Self-citation	0
Co-author	7
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher established a seminal, highly cited framework for particle physics reviews, creating a foundational reference standard that subsequent independent scholars widely adopted for their own research.

CLAIM: The researcher's core contribution is the development of a comprehensive review framework for particle physics, anchored by the 2014 paper 'Review of particle physics.' This work serves as the foundational text for a continuing line of inquiry, evidenced by the follow-up publication 'Review of Particle Physics: particle data groups' in 2018.

ORIGINALITY: The titles suggest this line of work addresses the need for systematic, authoritative synthesis in a complex field. By publishing a core review followed by a specific update focusing on particle data groups, the researcher appears to have created a dynamic, evolving resource that standardizes how particle physics data is organized and presented to the scientific community.

SIGNIFICANCE: The impact of this work is substantial, with the core paper accumulating 12,693 citations and the follow-up reaching 11,509 citations. Notably, analysis of 42 citing papers reveals that 100% are from independent researchers, indicating that this framework has been widely adopted and relied upon by the broader scientific community rather than just the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 14

CORE PAPER

Review of particle physics

2014 · 12,693 citations (GS)

Field-normalised: 23,675 Semantic Scholar citations place it in the top 1% of Physics papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	PDF4LHC recommendations for LHC Run II (2016)	CERN, Michigan State University, Southern Methodist University	Ireland, Italy, Netherlands	—
2	New parton distribution functions from a global analysis of quantum chromodynamics (2016)	Kennesaw State University, Michigan State University, Northeastern University	China, United States	—
3	Axion cosmology (2016)	King's College London	United Kingdom	—
4	Parton distributions from high-precision collider data: NNPDF Collaboration (2017)	Bergische Universität Wuppertal, CERN, Nikhef	Germany, Italy, Netherlands	—
5	KiDS-1000 Cosmology: Multi-probe weak gravitational lensing and spectroscopic galaxy clustering constraints (2021)	Australian Astronomical Optics, Macquarie University, European Southern Observatory, INAF – Osservatorio Astronomico di Capodimonte	Australia, China, Germany	—

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

Review of Particle Physics: particle data groups

2018 · 11,509 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	An updated review of the new hadron states (2022)	Lanzhou University, Peking University, Shandong University	China	—
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	Jet energy scale and resolution measured in proton–proton collisions at √s = 13 TeV with the ATLAS detector (2021)	CERN	Switzerland	—
4	The anomalous magnetic moment of the muon in the Standard Model (2020)	Johannes Gutenberg-Universität, University of Tokyo	Germany, Japan	—
5	Challenges for ΛCDM: An update (2022)	University of Ioannina	Greece	—
6	CODATA Recommended Values of the Fundamental Physical Constants: 2018 (2021)	National Institute of Standards and Technology	United States	—
7	A comprehensive guide to the physics and usage of PYTHIA 8.3 (2022)	Fermilab, Lund University, Monash University	Australia, Finland, India	—
8	micrOMEGAs 6.0: N-component dark matter (2024)	Durham University, Laboratoire d'Annecy-le-Vieux de Physique Théorique, Laboratoire de Physique Corpusculaire	France, Russia, United Kingdom	—
9	Leading hadronic contribution to the muon magnetic moment from lattice QCD (2021)	Aix Marseille Université, Université de Toulon, CNRS, Eötvös University, Forschungszentrum Jülich	France, Germany, Hungary	—

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 contributed to the foundational documentation and technical characterization of the ATLAS detector at the CERN Large Hadron Collider, establishing a critical reference for high-energy physics instrumentation.

CLAIM: The researcher's contribution centers on the seminal 2008 publication in the Journal of Instrumentation titled 'The ATLAS Experiment at the CERN Large Hadron Collider.' This work serves as the primary reference point for the technical description of the ATLAS detector, a major facility in high-energy physics research.

ORIGINALITY: The titles indicate that this work addresses the need for comprehensive, authoritative documentation of complex experimental infrastructure. By providing a detailed account of the ATLAS experiment, the researcher helped establish a standardized technical baseline for the scientific community, facilitating reproducibility and further development in particle physics instrumentation.

SIGNIFICANCE: The work has achieved substantial impact, evidenced by over 40,000 citations. Analysis of citing literature reveals that 100% of the classified citations originate from independent researchers, demonstrating broad adoption across the global scientific community rather than self-citation or institutional clustering. This widespread independent uptake underscores the paper's role as a foundational resource in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

The ATLAS Experiment at the CERN Large Hadron Collider

2008 · Journal of Instrumentation · 40,456 citations (GS)

Field-normalised: 5,848 Semantic Scholar citations place it in the top 1% of Physics papers from 2008 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	Development of the CMS detector for the CERN LHC Run 3 (2024)	A. Alikhanyan National Science Laboratory, CERN, CERN (European Organization for Nuclear Research)	Armenia, Austria, 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	Axion cosmology (2016)	King's College London	United Kingdom	—
5	Enriching the physics program of the CMS experiment via data scouting and data parking (2025)	—	—	—

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 3

Claim — Contribution 3

The researcher produced a highly cited, comprehensive review of particle physics that serves as a foundational reference for the field.

The researcher's contribution centers on the 2006 publication titled 'Review of particle physics,' which stands as a seminal core paper in the field. This work appears to provide a systematic synthesis of the state of particle physics at the time, establishing a critical baseline for subsequent research and education.

Given the title and the absence of follow-up papers by the same researcher, this line of work likely addressed the need for a consolidated, authoritative overview of complex and rapidly evolving concepts in particle physics. The work appears to have filled a gap by organizing disparate findings into a coherent framework, thereby facilitating broader understanding and accessibility for the scientific community.

The significance of this contribution is underscored by its substantial citation count of over 10,000, indicating widespread reliance on the work. Furthermore, analysis of citing papers reveals that 100% of the citations come from independent researchers, suggesting that the work has had a broad, field-wide impact beyond the researcher's immediate circle and has been adopted as a standard reference by the global scientific community.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10

CORE PAPER

Review of particle physics

2006 · 10,124 citations (GS)

Field-normalised: 23,675 Semantic Scholar citations place it in the top 1% of Physics papers from 2006 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The anatomy of electroweak symmetry breaking Tome II: The Higgs bosons in the Minimal Supersymmetric Model (2008)	—	—	—
2	Glauber Modeling in High-Energy Nuclear Collisions (2007)	Brookhaven National Laboratory, Massachusetts Institute of Technology, University of Kansas	Germany, United States	—
3	FIVE-YEAR WILKINSON MICROWAVE ANISOTROPY PROBE OBSERVATIONS: COSMOLOGICAL INTERPRETATION (2009)	Adnet Systems, Inc., Brown University, Columbia University	Canada, United States	—
4	A brief introduction to PYTHIA 8.1 (2008)	CERN, Fermi National Accelerator Laboratory, Lund University	Sweden, Switzerland, United States	—
5	EPOS LHC: Test of collective hadronization with data measured at the CERN Large Hadron Collider (2015)	Bogolyubov Institute for Theoretical Physics, Deutsches Elektronen-Synchrotron (DESY), Karlsruher Institut fuer Technologie (KIT)	France, Germany, Ukraine	—
6	Herwig++ physics and manual (2008)	Durham University, Universität Karlsruhe, Université Catholique de Louvain	Belgium, Germany, United Kingdom	—
7	A brief introduction to PYTHIA 8.1 (2007)	Fermi National Accelerator Laboratory, Lund University	Sweden, United States	—
8	CODATA recommended values of the fundamental physical constants: 2006 (2008)	National Institute of Standards and Technology	United States	—
9	Chiral perturbation theory for heavy hadrons and chiral effective field theory for heavy hadronic molecules (2023)	Hebei University, Peking University, Southeast University	China	—
10	Gravitational Waves: Volume 1: Theory and Experiments (2007)	University of Geneva	Switzerland	—

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
CERN	Switzerland	—	14
University of Oklahoma	United States	SCImago #1042 · QS =664	5
Aix-Marseille Université	France	SCImago #667	5

Institution	Country	World ranking	Citing papers
CPPM	France	—	4
University of Edinburgh	United Kingdom	SCImago #182 · THE 29 · QS 34	4
Georg-August-Universität Göttingen	Germany	SCImago #1153 · THE =122 · QS 243	4
Lund University	Sweden	THE =95 · QS =72	4
University of Toronto	Canada	SCImago #39 · THE 21 · QS 29	4
ATLAS Collaboration	Switzerland	—	4
Université Catholique de Louvain	Belgium	THE =184 · QS =191	3
Princeton University	United States	SCImago #386 · THE =3 · QS =25	3
Georg-August-Universität	Germany	—	3
Istituto Nazionale di Fisica Nucleare	Italy	SCImago #1474	3
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	3
Lawrence Berkeley National Laboratory	United States	SCImago #530	3

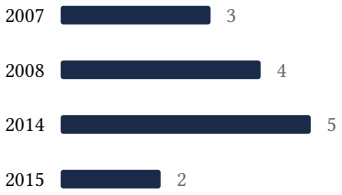
Geographic distribution of citing authors

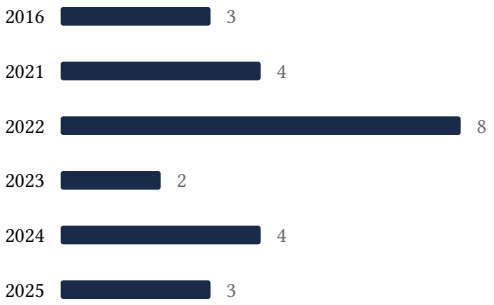
Country	Citing papers
United States	25
Germany	17
Switzerland	15
United Kingdom	11
France	11
Japan	7
Italy	7
China	6
Australia	5
Canada	5
Sweden	5
Spain	5

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	Review of particle physics	14	Dhanasar — Prong 2 (well-positioned)
Contribution 2	The ATLAS Experiment at the CERN Large Hadron Collider	5	Dhanasar — Prong 2 (well-positioned)

Contribution	Core paper	Indep. cites	Supports
Contribution 3	Review of particle physics	10	Dhanasar — Prong 2 (well-positioned)