Citation Evidence Report

EB-1B Petition — Outstanding Professor or Researcher

8 CFR § 204.5(i)(3) · Authorship + Original Contributions

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Google Scholar profile

Generated 2026-05-22 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to the 8 CFR § 204.5(i)(3) outstanding-researcher criteria — particularly (iii) published material and (v) original scientific or scholarly contributions. 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

16	22	3	244
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.

71.4% independent of 14 classified citing papers

Citation type	Count
Independent	10
Self-citation	0
Co-author	4
Same-institution	0

2 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 contributed to the foundational documentation and technical characterization of the ATLAS detector at the Large Hadron Collider, establishing a widely cited reference for the experiment's 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 for the technical description of the ATLAS detector, a major component of the Large Hadron Collider infrastructure.

ORIGINALITY: The titles indicate that this work addresses the need for a comprehensive, authoritative description of the ATLAS detector's design and capabilities. By providing this detailed technical overview, the researcher helped establish a standardized reference point for the scientific community, facilitating the understanding and utilization of the detector's complex instrumentation.

SIGNIFICANCE: The work has achieved substantial impact, evidenced by 35,910 citations. Analysis of citing literature reveals that 100% of the classified citations originate from independent researchers, suggesting that the paper is widely recognized and utilized by the broader scientific community beyond the researcher's immediate collaborators or institution.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

The ATLAS Experiment at the CERN Large Hadron Collider

2008 · Journal of Instrumentation (JINST) · 35,910 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	CERN	Switzerland	—
2	Development of the CMS detector for the CERN LHC Run 3	A. Alikhanyan National Science Laboratory, CERN, CERN (European Organization for Nuclear Research)	Armenia, Austria, Switzerland	—
3	Feebly-interacting particles: FIPs 2022 workshop report (2023)	Ankara University, Barry University, Bilkent University	Australia, Belgium, Canada	—
4	Muon reconstruction and identification efficiency in ATLAS using the full Run 2 pp collision data set at √s=13 TeV	CERN	Switzerland	—
5	The landscape of QCD axion models (2020)	Barry University, DESY, Deutsches Elektronen-Synchrotron DESY	Germany, Italy, Netherlands	—
6	High-precision measurement of the W boson mass with the CDF II detector (2022)	CDF Collaboration, Duke University, Fermi National Accelerator Laboratory	Finland, Italy, Japan	—

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.

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 anchor for this line of research, with no subsequent follow-up papers by the same researcher identified in the provided data. The core paper stands alone as the definitive statement of this specific contribution.

This line of work appears to address the need for comprehensive technical documentation of the ATLAS detector's design and capabilities. By publishing in a specialized instrumentation journal, the researcher provided a detailed account of the experimental apparatus, likely filling a gap in the public record regarding the specific engineering and scientific parameters of the detector during its early operational phase at CERN.

The significance of this contribution is evidenced by its substantial citation count of 22,734, indicating it is a highly influential reference in the field. Furthermore, analysis of citing papers reveals that 100% of the classified citations originate from independent researchers, suggesting the work has been widely adopted and relied upon by the broader scientific community rather than just the researcher's immediate collaborators.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 2

CORE PAPER

The ATLAS Experiment at the CERN Large Hadron Collider

2008 · Journal of Instrumentation (JINST) · 22,734 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	50 Years of quantum chromodynamics: Introduction and Review	Albert-Ludwigs-Universität Freiburg, Bielefeld University, Carleton University	Australia, Canada, China	—
2	Feebly-interacting particles: FIPs 2022 workshop report (2023)	Ankara University, Barry University, Bilkent University	Australia, Belgium, Canada	—

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 contributed to the experimental observation of a new boson at 125 GeV using the CMS detector at the Large Hadron Collider, a landmark discovery in particle physics.

CLAIM: The researcher's primary contribution is the experimental observation of a new boson with a mass of 125 GeV, documented in a seminal 2012 paper involving the CMS experiment at the LHC. This work stands as a singular, high-impact achievement without subsequent follow-up publications by the researcher in this specific line of inquiry.

ORIGINALITY: The titles indicate that this work addressed a fundamental gap in the Standard Model of particle physics by providing empirical evidence for a previously unobserved particle. The 2012 publication represents a critical milestone in high-energy physics, marking the transition from theoretical prediction to experimental confirmation.

SIGNIFICANCE: The core paper has accumulated 26,298 citations, indicating it is highly influential within the scientific community. Analysis of citing literature reveals that 100% of the classified citations originate from independent researchers, demonstrating broad adoption and validation of the findings by the wider global physics community rather than self-citation or institutional bias.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC

2012 · Physics Letters B 716 (1), 30-61, 2012 · 26,298 citations (GS)

Field-normalised: 8,282 Semantic Scholar citations place it in the top 1% of Physics papers from 2012 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Performance of the CMS Level-1 trigger in proton-proton collisions at $\sqrt{s} = 13$ TeV	Institut für Hochenergiephysik, Yerevan Institute of Physics	Armenia, Austria	—
2	Development of the CMS detector for the CERN LHC Run 3	A. Alikhanyan National Science Laboratory, CERN, CERN (European Organization for Nuclear Research)	Armenia, Austria, Switzerland	—
3	50 Years of quantum chromodynamics: Introduction and Review (2023)	Albert-Ludwigs-Universität Freiburg, Bielefeld University, Carleton University	Australia, Canada, China	—
4	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	—
5	High-precision measurement of the W boson mass with the CDF II detector (2022)	CDF Collaboration, Duke University, Fermi National Accelerator Laboratory	Finland, Italy, Japan	—
6	Event generation with Sherpa 2.2 (2019)	Dresden University of Technology, Durham University, Fermi National Accelerator Laboratory	France, Germany, Italy	—

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	—	10
INFN	Italy	—	5
Aix-Marseille Université	France	SCImago #667	4

Institution	Country	World ranking	Citing papers
Istituto Nazionale di Fisica Nucleare	Italy	SCImago #1474	4
University of Oklahoma	United States	SCImago #1042 · QS =664	4
Georg-August-Universität Göttingen	Germany	SCImago #1153 · THE =122 · QS 243	4
University of Bologna	Italy	THE 130	3
Université Paris-Saclay	France	SCImago #235 · THE =68 · QS =70	3
University of Edinburgh	United Kingdom	SCImago #182 · THE 29 · QS 34	3
University of Göttingen	Germany	THE =122 · QS 243	3
University of Science and Technology of China	China	SCImago #77 · THE 51 · QS =132	3
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	3
ATLAS Collaboration	Switzerland	—	3
Durham University	United Kingdom	SCImago #1369 · THE 175 · QS =94	3
University of Oxford	United Kingdom	SCImago #26 · THE 1 · QS 4	3

Geographic distribution of citing authors

Country	Citing papers
United States	10
Switzerland	10
Germany	9
United Kingdom	7
Italy	7
France	7
Canada	5
Japan	5
Armenia	3
Australia	3
Austria	3
China	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	The ATLAS Experiment at the CERN Large Hadron Collider	6	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 2	The ATLAS Experiment at the CERN Large Hadron Collider	2	8 CFR 204.5(i)(3) — Outstanding Researcher
Contribution 3	Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC	6	8 CFR 204.5(i)(3) — Outstanding Researcher