Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

Jean Barrette

Department of Physics, McGill University

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

13	15	3	54
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.

100.0% independent of 13 classified citing papers

Citation type	Count
Independent	13
Self-citation	0
Co-author	0
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

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Suppression of Hadrons with Large Transverse Momentum in Central Collisions at

2001 · 1,922 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	The PHOBOS Perspective on Discoveries at RHIC (2005)	Argonne National Laboratory, Brookhaven National Laboratory, Institute of Nuclear Physics PAN	Taiwan, United States	—
3	Overview of high-density QCD studies with the CMS experiment at the LHC (2024)	CERN	Switzerland	—
4	Mapping the phases of quantum chromodynamics with beam energy scan (2020)	AGH University of Science and Technology, Indiana University, Lawrence Berkeley National Laboratory	Japan, Poland, United States	—
5	The present and future of QCD (2024)	Argonne National Laboratory, George Washington University, Lawrence Berkeley National Laboratory	Croatia, Germany, Jordan	—

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 provided seminal experimental evidence for the formation of dense partonic matter in relativistic nucleus-nucleus collisions at RHIC through the PHENIX collaboration.

The researcher's primary contribution is the experimental evaluation of dense partonic matter formation in relativistic nucleus-nucleus collisions, as detailed in the 2005 PHENIX collaboration paper. This work stands as a foundational piece in the field, with no subsequent follow-up papers by the researcher listed in this specific line of inquiry.

This line of work appears to address the critical need for empirical validation of quark-gluon plasma characteristics in high-energy nuclear physics. By focusing on experimental evaluation at RHIC, the research likely provided crucial data to distinguish theoretical predictions from observable phenomena in heavy-ion collisions.

The significance of this contribution is underscored by its extensive citation record, with over 5,000 citations indicating broad adoption within the scientific community. Notably, 100% of the classified citing papers originate from independent researchers, demonstrating that the work has been widely recognized and utilized by the broader field beyond the researcher's immediate circle.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 6

CORE PAPER

Formation of dense partonic matter in relativistic nucleus–nucleus collisions at RHIC: experimental evaluation by the PHENIX collaboration

2005 · 5,477 citations (GS)

Field-normalised: 2,581 Semantic Scholar citations place it in the top 1% of Physics papers from 2005 indexed by Semantic Scholar, by citation count.

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	Collective Flow and Viscosity in Relativistic Heavy-Ion Collisions (2013)	The Ohio State University, Utrecht University	Netherlands, United States	—
3	Dense nuclear matter equation of state from heavy-ion collisions (2023)	Institute for Nuclear Theory, Los Alamos National Laboratory, Ludwig Maximilian University of Munich	Germany, Poland, United States	—
4	Electron and photon reconstruction and identification with the CMS experiment at the CERN LHC (2021)	—	—	—
5	The PHOBOS Perspective on Discoveries at RHIC (2005)	Argonne National Laboratory, Brookhaven National Laboratory, Institute of Nuclear Physics PAN	Taiwan, United States	—
6	Decoding the phase structure of QCD via particle production at high energy (2018)	GSI Helmholtzzentrum für Schwerionenforschung, GSI Helmholtzzentrum für Schwerionionenforschung, Universität Heidelberg	Germany	—

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 provided a foundational overview of the PHENIX detector, establishing a critical reference framework for experimental heavy-ion physics that has been widely adopted by the independent scientific community.

CLAIM: The researcher's primary contribution in this line of work is the comprehensive documentation and overview of the PHENIX detector, as presented in the seminal 2003 paper. This work serves as the central pillar of the researcher's output in this specific domain, standing alone without subsequent follow-up publications by the same author.

ORIGINALITY: Based on the title and the absence of follow-up papers, this work appears to address the need for a definitive, consolidated description of the detector's design and capabilities. By publishing this overview, the researcher likely filled a gap in the literature by providing a standardized reference point for the experimental setup, enabling other scientists to understand the apparatus without needing to reconstruct its details from disparate sources.

SIGNIFICANCE: The work has demonstrated substantial impact, accumulating 1110 citations since its publication. Notably, analysis of a sample of citing papers reveals that 100% of them originate from independent researchers, indicating that the contribution has been widely recognized and utilized by the broader scientific community rather than just the researcher's immediate collaborators or institution.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

PHENIX detector overview

2003 · 1,110 citations (GS)

Field-normalised: 430 Semantic Scholar citations place it in the top 1% of Physics papers from 2003 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	QCD and strongly coupled gauge theories: challenges and perspectives (2014)	—	—	—
2	Method for detector description transformation to Unity and application in BESIII (2022)	—	—	—
3	Elliptic flow of identified hadrons in Au+Au collisions at √sNN =200 GeV (2003)	Abilene Christian University, Bhabha Atomic Research Centre, Brookhaven National Laboratory	Brazil, France, Germany	—
4	Parton Fragmentation Functions (2016)	Indiana University, Temple University	United States	—

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
Indiana University	United States	THE =198	2
Los Alamos National Laboratory	United States	SCImago #1704	2
University of Illinois at Chicago	United States	—	2
Lawrence Berkeley National Laboratory	United States	SCImago #530	2
University of Tokyo	Japan	SCImago #141 · THE 26 · QS =36	2
Utrecht University	Netherlands	SCImago #162 · QS =103	2
University of Tennessee	United States	—	2
University of Tsukuba	Japan	SCImago #1406 · THE 351–400 · QS =350	2
Brookhaven National Laboratory	United States	SCImago #1757	2
CERN	Switzerland	—	2
Argonne National Laboratory	United States	SCImago #899	2
Bose Institute	India	—	1

Institution	Country	World ranking	Citing papers
Massachusetts Institute of Technology	United States	SCImago #41 · THE 2 · QS 1	1
GSI Helmholtz Centre for Heavy Ion Research	Germany	—	1
National Central University	Taiwan	SCImago #4063 · THE 1001–1200 · QS =587	1

Geographic distribution of citing authors

Country	Citing papers
United States	8
Germany	5
Japan	3
Switzerland	2
Taiwan	2
Netherlands	2
India	2
Poland	2
Russia	1
South Africa	1
South Korea	1
Sweden	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).

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	Suppression of Hadrons with Large Transverse Momentum in Central Collisions at	5	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Formation of dense partonic matter in relativistic nucleus–nucleus collisions at RHIC: experimental evaluation by the PHENIX collaboration	6	Dhanasar — Prong 2 (well-positioned)
Contribution 3	PHENIX detector overview	4	Dhanasar — Prong 2 (well-positioned)