

Justin E. Albert

Professor, Dept. of Physics & Astronomy Citizenship: Dual
University of Victoria **Canadian** citizen (nat. Sep. 22, 2014, Vancouver, BC)
<https://particle.phys.uvic.ca/~jalbert> **U.S.** citizen (born Jan. 7, 1975, Chapel Hill, NC)

Education

Ph.D. (Physics)	Princeton University	2002
M.A. (Physics)	Princeton University	1999
A.B. (Physics, <i>cum laude</i>)	Harvard University	1996
Raised in Chicago (Hyde Park), grad. U. of Chicago Laboratory High School (U-High) in 1992		

Academic Positions

Professor (Asst. → Assoc. → Full)	University of Victoria	2006–present
Millikan* Postdoctoral Fellow	California Institute of Technology	2002–2006
Graduate Research Assistant	Princeton University	1997–2002
Research Associate (NOMAD expt.)	Harvard University (based at CERN)	1996–1997

*Due to the [since-well-documented profound racism and harmful eugenics advocacy of Robert A. Millikan](#) during his lifetime, in 2020 Caltech renamed the Robert A. & Greta B. Millikan Fellowship Endowment Fund and its resulting postdoctoral fellowships simply as “Prize Postdoctoral Fellowships.” I *fully support this change*, and entirely disavow any connection whatsoever with the deeply racist and harmful legacy of Millikan’s eugenics and sterilization advocacy. (There however still [exists some controversy](#) over Millikan’s actual views.)

Justin Albert is an experimental particle astrophysicist and faculty member at the University of Victoria. His background is in multiple areas of both astrophysics and particle physics, including measurements of dark matter and dark energy (and precise calibration of the various foregrounds and instrumental responses that are associated with those measurements); physics of heavy flavor decays & *CP* violation; hadron collider physics; and neutrino physics. Justin is director/PI for the [ALTAIR](#) high-altitude micro-airship project for precision photometry calibration for dark energy measurements; and co-PI & lead physics & astronomy faculty member for the [ORCASat](#) CubeSat mission, also for precision photometry calibration; both of which are funded by the [Canadian Space Agency](#) and [NSERC](#).

Selected Recent Publications (over 2000 total, please see e.g. ORCID for a full list)

J. E. Albert, D. Budker, & H. R. Sadeghpour, “From atomic physics, to upper-atmospheric chemistry, to cosmology: A ‘laser photometric ratio star’ to calibrate telescopes at major observatories,” **Nat. Sci.** **2**, [e20220003](#) (“research highlight” cover article, Apr. 2022 journal issue) [arXiv:[2203.07556](#) (astro-ph), Authorea:[553588](#)].

J. E. Albert, D. Budker, K. Chance, I. E. Gordon, F. Pedreros Bustos, M. Pospelov, S. Rochester, & H. R. Sadeghpour, “A precise photometric ratio via laser excitation of the sodium layer – I. One-photon excitation using 342.78 nm light,” **MNRAS** **508**, [4399](#) (2021) [arXiv:[2001.10958](#) (astro-ph)].

J. E. Albert, D. Budker, K. Chance, I. E. Gordon, F. Pedreros Bustos, M. Pospelov, S. Rochester, & H. R. Sadeghpour, “A precise photometric ratio via laser excitation of the sodium layer – II. Two-photon excitation using lasers detuned from 589.16 nm and 819.71 nm resonances,” **MNRAS** **508**, [4412](#) (2021) [arXiv:[2010.08683](#) (astro-ph)].

G. Aad *et al.* [[ATLAS Collaboration](#)], “Measurements of Higgs bosons decaying to bottom quarks from vector boson fusion production with the ATLAS Experiment at $\sqrt{s} = 13$ TeV,” **Eur. Phys. J. C** **81**, [537](#) (2021) [arXiv:[2011.08280](#) (hep-ex)].

J. E. Albert, “Satellite-mounted light sources as photometric calibration standards for ground-based telescopes,” **AJ** **143**, [8](#) (2012) [arXiv:[1101.5214](#) (astro-ph)].

Contact Information

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