

# Joe Becker

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## Education

- 2005–2012 **Bachelor of Arts**, *University of Colorado*, Boulder, CO USA.  
- Physics, over all GPA: 3.0/4.0.
- 2005–2012 **Bachelor of Arts**, *University of Colorado*, Boulder, CO USA.  
- Mathematics, over all GPA: 3.1/4.0.
- 2001–2005 **International Baccalaureate High School Diploma**, *Poudre High School*, USA.

## Academic Background

- Physics Advanced Physics/Optics Lab, Junior Level Electronics Lab, Quantum Mechanics, Electricity and Magnetism, Classical Mechanics, Thermodynamics, Error Analysis, Solid State Physics, General Relativity
- Mathematics Calculus, Mathematical Analysis, ODE & PDE, Complex Analysis, Fourier Analysis, Linear Algebra, Probability Theory, Mathematical Statistics
- Computer Science Data Structures, Algorithms

## Experience

- 2006–2008 **Research Assistant**, *University of Colorado at Boulder: High Energy Physics BaBar Group*, Professors James G. Smith & William T. Ford.  
- Performed data analysis for the BaBar collaboration.  
- Measured quasi-two-body decays  $B^0 \rightarrow a_0(1450)^- \pi^+$ ,  $B^0 \rightarrow a_0(1450)^- K^+$ , and  $B^0 \rightarrow \eta \rho^0$
- 2011 **Summer Internship**, *Tech-X Corporation*, Peter Stoltz Ph.D.  
- Conducted a verification study on Nautilus, the fluid plasma modeling software.  
- Data analysis using python specifically in the NumPy, SciPy, Matplotlib environment.
- 2012–Present **Research Assistant**, *Liquid Crystal Materials Research Center*, Professors Noel Clark, Matthew Glaser, & Joseph MacLennan.  
- Designed and conducted scientific measurements on free-suspended liquid crystal films.  
- Data analysis on experimental data using Python, Mathematica, MatLab, & Origin 9

## Publications

- 2007 **The BABAR Collaboration, B. Aubert, et al**, "Search for Neutral B-Meson Decays to  $a_0 \pi$ ,  $a_0 K$ ,  $\eta \rho^0$ , and  $\eta \phi$ ", Phys. Rev D **75**, 111102 (2007).

## Computer skills

- |               |   |             |   |
|---------------|---|-------------|---|
| OS            | Linux/Unix, Windows, DOS                                  | Programming | C/C++, Python, Perl                               |
| Scientific    | Matlab, Maple, Mathematica, Matplotlib, LabView, Origin 9 | Typography  | L <sup>A</sup> T <sub>E</sub> X, Microsoft Office |
| Miscellaneous | Precision Machining                                       |             |   |