

Curriculum vitae of David Stuart

Education:

Ph.D. Physics Dec. 1992. Univ. of California at Davis (Advisor: Winston Ko)

B.S. Physics June 1986. Pacific Union College, Angwin, CA

Academic appointments:

2023-, Chair, Department of Physics, University of California at Santa Barbara.

2009-, Professor, University of California at Santa Barbara.

2005-2009, Assoc. Professor, University of California at Santa Barbara.

2001-2005, Asst. Professor, University of California at Santa Barbara.

2001, Scientist 1, Fermilab.

1997-2001, Wilson Fellow, Fermilab.

1993-1997, Research Associate, Fermilab.

Professional Activities:

2020-2024: Deputy Project Manager of CMS MIP Timing Layer

2024: HEPAP facilities sub-panel member

2018-20: Technical manager of Endcap Timing Layer HL-LHC upgrade project

2018-: Search for long-lived particles at CMS

2016-: MilliQan experiment design, construction and operation

2012-14: Investigate fast tracking with pixelated scintillating fibers and SiPMs

2013: UC Portfolio Review Group member

2011-18: Searches for supersymmetry at CMS using several final states

2011-12: CMS supersymmetry search group co-convener

2009-10: CMS Leptonic supersymmetry search group co-convener

2008: Search for new particles decaying to Z+jets and multilepton+multiplets at CMS

2008: Background modeling in new physics searches using forward events at LHC

2006-2008: CMS Tracker commissioning

2005-2007: CMS Tracker Outer Barrel construction and commissioning

2008: Search for heavy particles decaying to ZZ in four electron mode

2007: Search for new particles leading to Z+jets at CDF

2005-2008: Seeded silicon tracking for forward muons at CDF

2004: Search for new particles in high mass lepton pairs

2004: Measurement of forward-backward charge asymmetry from $W \rightarrow e\nu$

2003: Search for long lived charged massive particles at CDF

2002: Measurement of charged jet evolution and the underlying event at CDF

2000: Develop calorimeter seeded silicon tracking for forward electrons at CDF

2000-2008: CDF silicon detector operations

1998-2000: CDF Layer-00 project, design and construction

1997-2000: CDF Intermediate Silicon Layers project proposal, design, construction
1997-1999: Convener of CDF's exotic physics group
1993-1995: CDF silicon tracking and b-tagging for top quark discovery
1993-1995: CDF SVX' construction and operation
1992: Forward backward charge asymmetry of quark pairs at TRISTAN
1991-1993: Detector development with G. Charpak

Honors and awards:

2004-2006 Department of Energy Outstanding Junior Investigator

Selected publications:

- “Search for long-lived particles decaying in the CMS muon detectors in proton-proton collisions at $\sqrt{s}=13$ TeV” Phys.Rev.D.110.032007 (2024).
- “Technical Proposal for the milliQan sub-detector” CERN-LHCC-2021-022.
- “Search for millicharged particles in proton-proton collisions at $\sqrt{s}=13$ TeV”, Phys.Rev.D 102 (2020) 3, 032002.
- “The milliQan Experiment: Search for milli-charged particles at the LHC”, MilliQan Collaboration, Phys.Rev.D 102 (2020) 3, 032002.
- “Search for long-lived particles using nonprompt jets and missing transverse momentum with proton-proton collisions at $\sqrt{s} = 13$ TeV”, CMS Collaboration, Phys.Lett. B797 (2019) 134876.
- “Search for R-parity violating supersymmetry in pp collisions at $\sqrt{s} = 13$ TeV using b jets in a final state with a single lepton, many jets, and high sum of large-radius jet masses”, CMS Collaboration, Phys. Lett. B 783 (2018) 114139.
- “Search for supersymmetry in pp collisions at $\sqrt{s} = 13$ TeV in the single-lepton final state using the sum of masses of large-radius jets”, CMS Collaboration, Phys. Rev. Lett. 119, 151802 (2017)
- “Search for supersymmetry in events with b jets and missing transverse momentum at the LHC”, CMS Collaboration, JHEP 7, 113 (2011).
- “Fast track finding using radially pointing scintillating fibers”, David Stuart, JINST 5, C07006 (2010).
- “Measurement of the forward-backward charge asymmetry from $W \rightarrow e\nu$ production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, CDF Collaboration, Phys.Rev.D71 051104, 2005.

- “Search for long lived charged massive particles in $\bar{p}p$ collisions at $\sqrt{s} = 1.8$ -TeV”, CDF Collaboration, Phys.Rev.Lett.90:131801,2003.
- “Charged jet evolution and the underlying event in proton - anti-proton collisions at 1.8 TeV”, CDF Collaboration, Phys.Rev.D65:092002,2002.
- “Radiation damage experience at CDF with SVX”, P. Azzi, et. al., Nucl.Instr.Meth. A383:155 (1996).
- “Forward-backward charge asymmetry in $e^+e^- \rightarrow$ hadron jets”, AMY Collaboration, Phys.Rev.Lett.64:983,1990
- “Investigation of operation of a parallel-plate avalanche chamber with a CsI photocathode under high gain conditions”, G. Charpak, et. al., Nucl.Instr.Meth. A307:63 (1991).