Aaron Birch
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Professional Preparation:

Graduate Stanford University Ph.D. Physics 2002
Undergraduate Brandeis University B.A. Mathematics Physics 1996

Appointments:

2010-	Sr. Research Scientist, NWRA/CoRA Division
2005-2010	Research Scientist, NWRA/CoRA Division
2004-2005	Postdoctoral Research Associate, NWRA/CoRA Division
2002-2004	Postdoctoral Research Associate
	W.W. Hansen Experimental Physics Laboratory, Stanford University

Selected Publications:

Birch, A.C., Braun, D.C., & Fan, Y. 2010, "An Estimate of the Detectability of Rising Flux Tubes," ApJ, 723, L190.

Gizon, L., & Birch, A.C. 2010, "Local Helioseismology: Three-Dimensional Imaging of the Solar Interior," Annual Reviews in Astronomy and Astrophysics, 48, 289.

Birch, A. C., Braun, D. C., Hanasoge, S. M., and Cameron, R. 2009, "Surface-Focused Seismic Holography of Sunspots: II. Expectations from Numerical Simulations Using Sound-Speed Perturbations," Sol. Phys., 254, 17.

Birch, A. C., Gizon, L., Hindman, B.W., and Haber, D.A. 2007, "The Linear Sensitivity of Helioseismic Ring Diagrams to Local Flows," ApJ, 662, 730.

Birch, A.C. and Gizon, L. 2007, "Linear Sensitivity of Helioseismic Travel Times to Local Flows," Astronomische Nachrichten, 328, 228.

Braun, D.C. and Birch, A.C. 2006, "Observed Frequency Variations of Solar p-Mode Travel Times as Evidence for Surface Effects in Sunspot Seismology," ApJ, 647, L187.

Gizon, L., and Birch, A. C. 2005, "Local Helioseismology," Living Reviews in Solar Physics.

Birch, A. C., Kosovichev, A. G., and Duvall, T. L., Jr. 2004, "Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior," ApJ 608, 580.

Gizon, L. and Birch, A. C. 2002, "Time-Distance Helioseismology: The Forward Problem for Random Distributed Sources," ApJ 571, 966.

Scientific/Technical/Management Performance: Birch currently serves as PI of NASA contracts that focus on 1) predicting the emergence and evolution of active regions and 2) developing tools for local helioseismology, as well as a subcontract through Princeton to carry out non-linear inversions of local helioseismic measurements. Birch is also Co-I on a number of other research efforts. Birch is chair of the NASA LWS TR&T Team "Predict the Emergence of Active Regions." Birch's scientific performance is highlighted in the list of publications above.