

## **Erik M. Leitch**

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### **Education**

Ph.D., Astronomy, 1998 (advised by A. C. S. Readhead)  
California Institute of Technology

A.B., Physics, 1992  
Princeton University – Cum Laude

### **Professional History**

2005 – present: Staff Scientist, Jet Propulsion Laboratory

2003 – 2005: Senior Research Associate, University of Chicago; Associate Fellow, CfCP

2001 – 2003: Research Scientist, University of Chicago; Associate Fellow, CfCP

2000 – 2001: Research Associate, University of Chicago

1998 – 2000: CARA Fellow, University of Chicago

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### Recent Invited Talks

*Detection of CMB Polarization with the Degree Angular Scale Interferometer*, New Results in Cosmology and the Coherence of the Standard Model, Rencontres de Blois, 16 June 2003

*Detection of CMB Polarization with the Degree Angular Scale Interferometer*, CAPP 2003 Workshop on Cosmology and Particle Physics, CERN, 12 June 2003

*Cosmology with the Degree Angular Scale Interferometer*, U. C. Davis Physics Colloquium, 14 April 2003

*Detection of CMB Polarization with DASI*, NAS colloquium on Challenges to the Standard Paradigm: Fundamental Physics and Cosmology, U. C. Irvine, 1 November 2002

*First Season Observations with DASI*, Experimental Cosmology at Millimetre Wavelengths, 2K1BC Workshop, Breuil-Cervinia Italy, 10 July 2001

*A New Measurement of the CMB Power Spectrum with the Degree Angular Scale Interferometer (DASI)*, U. C. Davis Physics Colloquium, 7 June 2001

*The Degree Angular Scale Interferometer*, New Cosmological Data and the Values of the Fundamental Parameters, IAU conference, Manchester UK, 7-11 August 2000

*The Degree Angular Scale Interferometer*, Institute for Theoretical Physics, UCSB, 11 July 2000

### Selected Refereed Publications

*DASI Three-Year Cosmic Microwave Background Polarization Results*. Leitch, E. M., Kovac, J. M., Halverson, N. W., Carlstrom, J. E., Pryke, C., Smith, M. W. E. 2005 ApJ 624, 10-20.

*Polarization Observations with the Cosmic Background Imager*. A. C. S. Readhead, S. T. Myers, T. J. Pearson, J. L. Sievers, B. S. Mason, C. R. Contaldi, J. R. Bond, R. Bustos, P. Altamirano, C. Achermann, L. Bronfman, J. E. Carlstrom, J. K. Cartwright, S. Casassus, C. Dickinson, W. L. Holzapfel, J. M. Kovac, E. M. Leitch, J. May, S. Padin, D. Pogosyan, M. Pospieszalski, C. Pryke, R. Reeves, M. C. Shepherd, S. Torres 2004, Science, 306, 836-844.

*Scientific optimization of a ground-based CMB polarization experiment*. M. Bowden, A. N. Taylor, K. M. Ganga, P. A. R. Ade, J. J. Bock, G. Cahill, J. E. Carlstrom, S. E. Church, W. K. Gear, J. R. Hinderks, W. Hu, B. G. Keating, J. Kovac, A. E. Lange, E. M. Leitch, O. E. Mallie, S. J. Melhuish, J. A. Murphy, L. Piccirillo, C. Pryke, B. A. Rusholme, C. O'Sullivan, K. Thompson 2004, MNRAS 349, 321

*Detection of Polarization in the Cosmic Microwave Background using DASI*. Kovac, J. M., Leitch, E. M., Pryke, C., Carlstrom, J. E., Halverson, N. W., Holzapfel, W. L. 2002, Nature, 422, 768.

*Measurement of Polarization with the Degree Angular Scale Interferometer*. Leitch, E. M., Kovac, J. M., Pryke, C., Carlstrom, J. E., Halverson, N. W., Holzapfel, W. L., Dragovan, M., Reddall, B., Sandberg, E. S. 2002, Nature, 422, 772.

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**Selected Refereed Publications (cont.)**

*The Anisotropy of the Microwave Background to  $l = 3500$ : Mosaic Observations with the Cosmic Background Imager.* Pearson, T. J., Mason, B. S., Readhead, A. C. S., Shepherd, M. C., Sievers, J. L., Udomprasert, P. S., Cartwright, J. K., Farmer, A. J., S. Padin (Caltech), (NRAO), S. T. Myers, Bond, J. R., Contaldi, C. R., Pen, U.-L., Prunet, S. (CITA), Pogosyan, D. (U. of Alberta), Carlstrom, J. E., Kovac, J. M., Leitch, E. M., Pryke, C. (U. of Chicago), Halverson, N. W., Holzzapfel, W. L. (U. California, Berkeley), Altamirano, P., Bronfman L., Casassus S., May J. (U. de Chile), Joy M. (NASA/Marshall) 2002, ApJ, submitted.

*The Anisotropy of the Microwave Background to  $l = 3500$ : Deep Field Observations with the Cosmic Background Imager.* Pearson, T. J., Mason, B. S., Readhead, A. C. S., Shepherd, M. C., Sievers, J. L., Udomprasert, P. S., Cartwright, J. K., Farmer, A. J., S. Padin (Caltech), (NRAO), S. T. Myers, Bond, J. R., Contaldi, C. R., Pen, U.-L., Prunet, S. (CITA), Pogosyan, D. (U. of Alberta), Carlstrom, J. E., Kovac, J. M., Leitch, E. M., Pryke, C. (U. of Chicago), Halverson, N. W., Holzzapfel, W. L. (U. California, Berkeley), Altamirano, P., Bronfman L., Casassus S., May J. (U. de Chile), Joy M. (NASA/Marshall) 2002, ApJ, submitted.

*Experiment Design and First Season Observations with the Degree Angular Scale Interferometer.* Leitch, E. M., Pryke, C., Halverson, N. W., Kovac, J., Davidson, G., LaRoque, S., Schartman, E., Yamasaki, J., Carlstrom, J. E., Holzzapfel, W. L., Dragovan, M., Cartwright, J. K., Mason, B. S., Padin, S., Pearson, T. J., Shepherd, M. C., Readhead, A. C. S. 2001, ApJ, 568, 28-37

*DASI First Results: A Measurement of the Cosmic Microwave Background Angular Power Spectrum.* Halverson, N. W., Leitch, E. M., Pryke, C., Kovac, J., Carlstrom, J. E., Holzzapfel, W. L., Dragovan, M., Cartwright, J. K., Mason, B. S., Padin, S., Pearson, T. J., Shepherd, M. C., Readhead, A. C. S. 2001, ApJ, 568, 38-45

*Cosmological Parameter Extraction from the First Season of Observations with DASI.* Pryke, C., Halverson, N. W., Leitch, E. M., Kovac, J., Carlstrom, J. E., Holzzapfel, W. L., Dragovan, M. 2001, ApJ, 568, 46-51.

*First Intrinsic Anisotropy Observations with the Cosmic Background Imager.* Padin, S., Cartwright, J. K., Mason, B. S., Pearson, T. J., Readhead, A. C. S., Shepherd, M. C., Sievers, J., Udomprasert, P. S., Holzzapfel, S. W. L., Myers, S. T., Carlstrom, J. E., Leitch, E. M., Joy, M., Bronfman, L., May, J. 2000, ApJ, 549, L1-L5.

*A Measurement of Anisotropy in the Cosmic Microwave background Radiation on  $7'$ - $22'$  Scales.* Leitch, E. M., Readhead, A. C. S., Pearson, T. J., Myers, S. M., Gulkis, S. and Lawrence, C. R. 2000, ApJ, 532, 37.

*Expectations For an Interferometric Sunyaev-Zel'dovich Effect Survey for Galaxy Clusters.* Holder, G. P., Mohr, J. J., Carlstrom, J. E., Evrard, A. E., Leitch, E. M. 2000, ApJ, 544, 629.

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### Selected Refereed Publications (cont.)

*An Absolute Flux Density Measurement of the Supernova Remnant Cassiopeia A at 32 GHz.* Mason, B. S., Leitch, E. M., Myers, S. T., Cartwright, J. K., Readhead A. C. S. 1999, AJ, 118, 2908.

*Mass Extinctions and the Sun's Encounters with Spiral Arms.* Leitch, Erik M., Vasisht, Gautam 1997, New Astronomy, 3, L51.

*An Anomalous Component of Galactic Emission.* Leitch, E. M., Readhead, A.C.S., Pearson, T. J. & Myers, S. T. 1997, ApJ, 486, L23.

*Measurements of the Sunyaev-Zeldovich Effect in the Nearby Clusters A478, A2142 and A2256.* Myers, S. T., Baker, J.E., Readhead, A.C.S., Leitch, E.M. and Herbig, T. 1997, ApJ, 485, 1.

### Selected Conference Proceedings

*The South Pole Telescope.* Ruhl, J. E., Ade, P. A. R., Carlstrom, J. E., Cho, H. M., Crawford, T., Dobbs, M., Greer, C. H., Halverson, N. W., Holzappel, W. L., Lantin, T. M., Lee, A. T., Leong, J., Leitch, E. M., Lu, W., Lueker, M., Mehl, J., Meyer, S. S., Mohr, J. J., Padin, S., Plagge, T., Pryke, C., Schwan, D., Sharp, M. K., Runyan, M. C., Spieler, H., Staniszewski, Z., Stark, A. A. 2004, in Proc. SPIE, Vol. 5498

*Status of CMB Polarization Measurements from DASI and Other Experiments.* Carlstrom, J. E., Kovac, J., Leitch, E. M., Pryke, C. 2003, Proceedings of "The Cosmic Microwave Background and its Polarization", New Astronomy Reviews, (eds. S. Hanany and K.A. Olive)

*First Season Observations with the Degree Angular Scale Interferometer (DASI).* Leitch, E. M., Carlstrom, J. E., Halverson, N. W., Kovac, J., Pryke, C., Holzappel, W. L., Dragovan, M. 2002, in De Petris M. and Gervasi, M., editors, Experimental Cosmology at Millimetre Wavelengths, volume 616 of AIP Conf. Series.

*DASI: The Degree Angular Scale Interferometer.* Leitch, E. M., Carlstrom, J. E., Davidson, G., Dragovan, M., Halverson, N. W., Holzappel, W. L., Laroque, S., Kovac, J., Pryke, C. L., Schartman, E., Yamasaki, J. 2000, in Lasenby, A. and Wilkinson, A., editors, New Cosmological Data and the Values of the Fundamental Parameters, volume 201 of IAU Symp.

*A Sunyaev-Zel'dovich Effect Survey for High Redshift Clusters.* Mohr, J.J., Carlstrom, J.E., Holder, G.P., Holzappel, W. L., Joy, M.K., Leitch, E. M., Reese, E. D. 1999, in Vlt Opening Symposium : Proceedings of the Eso Symp. (Antofagasta)