

CURRICULUM VITAE

Per B. Lilje

Surname: Lilje

Given names: Per Vidar Barth

Address: Institute of Theoretical Astrophysics, University of Oslo,
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Date of birth: 11 March 1957

Ph. D. degree: July 1988, University of Cambridge, England

Earlier degree: January 1985, Cand. real. (M.Sc.), University of Oslo

Employment: From January 1993: Professor of Astrophysics, University of Oslo.
August 1997 – June 1998: Visiting fellow, Centre for Advanced Study,
Norwegian Academy of Science and Letters.
September 1992 – December 1992: Associate Professor of
Astrophysics, University of Oslo.
September 1989 – August 1992: NORDITA Fellow, NORDITA,
Copenhagen
January 1988 – August 1989: Post-Doctoral Research Fellow,
Canadian Institute of Theoretical Astrophysics, Toronto.

Membership: Member, International Astronomical Union

Norwegian duties: Head of Department, Institute of Theoretical
Astrophysics, University of Oslo, January 2005–December 2008
Director of Studies, Institute of Theoretical Astrophysics,
University of Oslo, June 2003–December 2004
Chair, *Astronomy Master degree programme committee*,
University of Oslo, 2003–2005
Chair, *National Norwegian Evaluation Committee for Promotions
from Associate Professor to Professor (in Astrophysics)*, 1993, 1998.
Member, *Physics, astronomy and meteorology Bachelor degree
committee*, University of Oslo, 2003–2005

International duties: Organizer, *Nordic Research Network of Cosmology and Galaxy Formation*, 1993-1996.

Member (Chair 1995–1996, 2004–2007), 1993–
Nordic Optical Telescope Scientific-Technical Committee.

Norwegian Representative, *NORDITA Astrophysics Committee*, 1994–1999.

Member, *European Commission Study Panel on Ground Astronomy and Astrophysics*, 1994–1995.

Member, *ESA Astronomy Working Group*, 1996–1999.

Delegate, *ESA Science Programme Committee*, 2000–.

Member, *OECD Global Science Forum Committee on Large-scale Projects in Astronomy and Astrophysics*, 2003–2004.

Member, *Nordic Optical Telescope Council*, 2003–.

Member, *European Space Science Committee*, 2006–2009.

Fields of research: Theoretical and observational cosmology:

- data analysis methods for CMB data
- large-scale density and velocity fields
- gravitational lensing from clusters of galaxies
- formation and evolution of clusters of galaxies
- formation and evolution of radio-loud QSOs and radio galaxies

Co-Investigator, Norwegian project leader and project manager,
 ESA's *Planck* Low Frequency Instrument (LFI).

Supervisor: 1994–2007: Supervised 16 students for M.Sc. and 2 for Ph.D.,
 presently supervisor for 2 M.Sc. students and 1 Ph.D. student.

Refereeing: MNRAS, ApJ, Swedish Space Science Board, Swedish
 Research Council, Finnish Academy, Danish Research Council,
 Research Council of Austria

Ph.D. opponent: University of Copenhagen, University of Trondheim.

BIBLIOGRAPHY 2002–2007

In refereed journals

- 1) Dahle, H., Kaiser, N., Irgens, R., Lilje, P.B., and Maddox, S.J.: “Weak Gravitational Lensing by a Sample of X-Ray Luminous Clusters of Galaxies. I. The Data Set”, *Astrophys. J. Suppl.*, **139**, 313–368 (2002).
- 2) Wold, M., Lacy, M., Dahle, H., Lilje, P. B., and Ridgway, S.E.: “AGN-selected clusters as revealed by weak lensing”, *Mon. Not. R. astr. Soc.*, **335**, 1017–1036 (2002).
- 3) Irgens, R. J., Lilje, P. B., Dahle, H., and Maddox, S. J.: “Weak Gravitational Lensing by a Sample of X-Ray Luminous Clusters of Galaxies. II. Comparison with Virial Masses”, *Astrophys. J.*, **579**, 227–235 (2002).
- 4) Dahle, H., Pedersen, K., Lilje, P. B., Maddox, S. J., and Kaiser, N.: “Weak Gravitational Lensing by a Sample of X-Ray Luminous Clusters of Galaxies – III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations”, *Astrophys. J.*, **591**, 662–676 (2003).
- 5) Eriksen, H. K., Hansen, F. K., Banday, A. J., Górski, K. M., and Lilje, P. B.: “Asymmetries in the Cosmic Microwave Background Anisotropy Field”, *Astrophys. J.*, **605**, 14–20 (2004).
- 6) Eriksen, H. K., Lilje, P. B., Banday, A.J., and Górski, K. M.: “Estimating N -Point Correlation Functions from Pixelized Sky Maps”, *Astrophys. J. Suppl.*, **151**, 1–11 (2004).
- 7) Eriksen, H. K., Novikov, D. I., Lilje, P. B., Banday, A. J., and Górski, K. M.: “Testing for Non-Gaussianity in the *Wilkinson Microwave Anisotropy Probe* Data: Minkowski Functionals and the Length of the Skeleton”, *Astrophys. J.*, **612**, 64–80 (2004).
- 8) Eriksen, H. K., Banday, A. J., Górski, K. M., and Lilje, P. B.: “On Foreground Removal from the *Wilkinson Microwave Anisotropy Probe* Data by an Internal Linear Combination Method: Limitations and Implications”, *Astrophys. J.*, **612**, 633–646 (2004).
- 9) Smith, R. E., Dahle, H., Maddox, S. J., and Lilje, P. B.: “Spectro-Photometric and Weak Lensing Survey of a Supercluster and Typical Field Region – I. Spectroscopic Redshift Measurements”, *Astrophys. J.*, **617**, 811–828 (2004).
- 10) Eriksen, H. K., O’Dwyer, I. J., Jewell, J. B., Wandelt, B. D., Larson, D. L., Górski, K. M., Levin, S., Banday, A. J., and Lilje, P. B.: “Power Spectrum Estimation from High-Resolution Maps by Gibbs Sampling”, *Astrophys. J. Suppl.*, **155**, 227–241 (2004).
- 11) O’Dwyer, I. J., Eriksen, H. K., Wandelt, B. D., Jewell, J. B., Larson, D. L., Górski, K. M., Banday, A. J., Levin, S., and Lilje, P. B.: “Bayesian Power Spectrum Analysis of the First-Year *WMAP* Data”, *Astrophys. J. Lett.*, **617**, L99–L102 (2004).
- 12) Eriksen, H. K., Banday, A. J., Górski, K. M., and Lilje, P. B.: “The N -Point Correlation Functions of the First-Year *Wilkinson Microwave Anisotropy Probe* Sky Maps”, *Astrophys. J.*, **622**, 58–71 (2005).
- 13) Bielewicz, P., Eriksen, H. K., Banday, A. J., Górski, K. M., and Lilje, P. B.: “Multipole Vector Anomalies in the First-Year *WMAP* Data: A Cut-Sky Analysis”, *Astrophys. J.*, **635**, 750–760 (2005).
- 14) Bersanelli, M., ..., Lilje, P. B. et al.: “Planck-LFI: Instrument Design and Ground Calibration Strategy”, *Proc. European Microwave Association*, **1** (2005).

- 15) Eriksen, H. K., Dickinson, C., Lawrence, C. R., Baccigalupi, C., Banday, A. J., Górski, K. M., Hansen, F. K., Lilje, P. B., Pierpaoli, E., Seiffert, M. D., Smith, K. M., and Vanderlinde, K.: “CMB Component Separation by Parameter Estimation”, *Astrophys. J.*, **641**, 665–682 (2006).
- 16) Hansen, F. K., Banday, A. J., Eriksen, H. K., Gorski, K. M., and Lilje, P. B.: “Foreground Subtraction of Cosmic Microwave Background Maps using WI-FIT (Wavelet Based High Resolution Fitting of Internal Templates)”, *Astrophysical Journal*, **648**, 784–796 (2006).
- 17) Eriksen, H. K., Banday, A. J., Górski, K. M., Hansen, F. K., and Lilje, P. B.: “Hemispherical Power Asymmetry in the Third-Year *Wilkinson Microwave Anisotropy Probe* Sky Maps”, *Astrophys. J.*, **660**, L81–L84 (2007).

In symposium proceedings etc.

- a) Wold, M., Lacy, M., Lilje, P. B., and Serjeant, S.: “QSO Environments at Intermediate Redshifts”, in *QSO Hosts and their Environments*, ed. I. Márquez, J. Masegosa, A. del Olmo, L. Lara, E. García and J. Molina, Kluwer Academic/Plenum Publishers, New York, 33–38 (2001).
- b) Eriksen, H. K., Novikov, D. I., Lilje, P. B., Banday, A. J., and Górski, K. M.: “Non-Gaussianity in the WMAP data on intermediate scales”, poster at *2nd Planck Symposium and Consortium Meeting; 26.01.2004 - 30.01.2004*, (2004).
- c) O’Dwyer, I. J., Eriksen, H. K., Wandelt, B. D., Jewell, J. B., Larson, D. L., Górski, K. M., Banday, A. J., Lavin, S., and Lilje, P. B.: “Bayesian Power Spectrum Analysis of the First-Year WMAP data”, poster at *3d Planck Symposium and Consortium Meeting; 26.01.2005 - 28.01.2005*, (2005).
- d) Lilje, P. B.: “EGSE for Planck LFI: The Norwegian contribution”, lecture at *3d Planck Symposium and Consortium Meeting; 26.01.2005 - 28.01.2005*, (2005).

Popular articles

- Engvold, O. and Lilje, P. B.: “Eberhart Jensen 1922 – 2003”, *Astronomy and Geophysics*, **44**, 2.38 (2003).
- Einevoll, G. T., Lilje, P. B. and Lütken, C. A.: “Fysikkens fremtid?”, *Fra Fysikkens Verden*, **2/3-03**, 70–80 (2003).
- Einevoll, G. T., Lilje, P. B. and Lütken, C. A.: “Fysikkens fremtid?”, *Kvant, Tidsskrift for Fysik og Astronomi*, 3-03, 19–27 (2003).