Ref: **E&PS-00328**

THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF ENGINEERING & PHYSICAL SCIENCES

Physics & Astronomy

Research Associate in CMB polarization

1 The University invites applications for the above post which is tenable from 1st April 2012 or as soon as possible thereafter, for a period of two years in the first instance, with the possibility of renewal.

2 Salary will be £28,099 to £35,788 per annum according to relevant experience.

3 Informal inquiries may be made to Dr Michael Brown. Email: michael.brown-4@manchester.ac.uk

4 Applications should be made on line. If you are unable to apply on line please contact your local HR representative.

5 The University of Manchester values a diverse workforce and welcomes applications from all sections of the community.

THE UNIVERSITY OF MANCHESTER

FACULTY OF ENGINEERING & PHYSICAL SCIENCES

SCHOOL OF PHYSICS AND ASTRONOMY

Research Associate in CMB polarization (E&PS-00328)

A Postdoctoral Research Associate position is available in the extragalactic and observational cosmology group, in The Jodrell Bank Centre for Astrophysics. The starting date is 1st April 2012 or as soon as possible thereafter. You will work with Dr. Michael Brown on the analysis of data from current CMB polarization experiments and the simulation, design and optimization of future facilities focussed on CMB B-mode detection.

The University of Manchester is currently involved in a number of world-leading CMB projects including the Planck, QUIET, QUIJOTE, LSPE and CBASS projects and is closely involved in the planning of next generation facilities. You will be based at the University of Manchester and will be analyzing data from one or more of the projects listed above and/or undertaking design studies of potential future CMB polarization instruments.

Knowledge and experience of CMB data analysis or instrument simulation/modelling is essential. You must also hold or be about to obtain a PhD or equivalent in a relevant field, preferably with emphasis on CMB research. You must possess excellent communication skills, and programming skills (e.g. C, Fortran, IDL) are essential.

Prior connection with observational projects, and an interest in observational cosmology is desirable, and you should be willing to travel within UK and overseas in order to facilitate the research.

This position is funded by an ERC Starting Grant. The initial appointment will be for a period of two years with the possibility of renewal.

Informal enquiries may be made to Dr Michael Brown, Email: mbrown@jb.man.ac.uk, tel: +44 (0)161 3063913.

The University of Manchester values a diverse workforce and welcomes applications from all sections of the community.

Job title:	Research Associate in CMB polarization
Salary:	Grade 6 (currently £29,099 - £35,788 p.a.)
Start/duration:	Tenable from 1st April 2012
Based at:	School of Physics & Astronomy
Responsible to:	Dr Michael Brown

JOB DESCRIPTION

This post is funded by an ERC "Starting Independent Researcher" Grant awarded to Dr. Michael Brown and is focused on the data analysis, science exploitation and instrument design of current and future CMB polarization experiments. The ultimate goal is to constrain the amplitude of a possible B-mode polarization signal generated by gravitational waves in the early Universe. The work will involve the development and application of data analysis techniques for current experiments and the simulation and optimization of the instrument design for future facilities. It will be done under the supervision of Dr. Michael Brown, and in close collaboration with other members of the Manchester CMB group and external partners.

Key Responsibilities, Accountabilities or Duties:

- Original research on data analysis and science interpretation of ongoing CMB experiments.
- Development of a pipeline for CMB data analysis which can be applied to a range of CMB projects.
- Analysis of observations from one or more of the CMB projects the group is involved in – Planck/QUIET/QUIJOTE/LSPE/CBASS.
- Developing simulations of future CMB polarization facilities and the optimization of the design of such facilities for B-mode polarization detection.
- Collaboration with PhD students involved in the projects.
- Regular presentation of work and results at international conferences and events.
- Report on the adopted techniques and the results obtained at international conferences and in peer-reviewed journals, in particular writing of 1st author papers.
- The post holder will be expected to work on the campus of the University of Manchester.
- The post-holder may be expected to contribute to teaching duties.

PERSON SPECIFICATION

Essential

- A PhD in physics or astrophysics with an emphasis on CMB research.
- Experience of CMB data analysis and/or instrument design & simulation.
- A publication record commensurate with experience.
- Programming skills (e.g. C, Fortran, IDL).
- Excellent communication skills, including written and presentation skills.
- Willingness to travel within UK and overseas in order to facilitate the research.

Desirable

- Connections with the observational projects in which the group is involved.
- An interest in fundamental physics, early Universe physics & cosmology.
- Experience of supervising PhD students.