EPSRC

Engineering and Physical Sciences Research Council
Polaris House, North Star Avenue
Swindon SN2 1ET

EPS (eRP)

RESEARCH PROPOSAL

1 DETAILS OF PROPOSAL

You should read 'EPSRC Research Grants' before completing any research proposal. The form EPS(RP) must be accompanied by a case for support. The EPSRC will reject research proposals which are incomplete.

Organisation where grant would be held

Organisation or Institution	University of Cambridge
Division or Department	Earth Sciences
Address	Downing Street Cambridge CB2 3EQ

FOR EPSRC USE
Date received
Apcon code
Grant type

Investigators

Total number of investigators 27

Please give details of each investigator below.

Details	Principal Investigator	Co-investigator 1	Co-investigator 2
Title/Initials	Dr M T	Prof E	Dr C N W
Surname	Dove	Salje	Darlington
Post held	University Lecturer	Professor	Senior Lecturer
Organisation	University of Cambridge	University of Cambridge	University of Birmingham
Division or Department	Earth Sciences	Earth Sciences	School of Physics & Astronomy
Telephone	01223-333482	01223-333481	0121 4144729
Fax	01223-333450	01223-333450	0121 4144719
E-mail	martin@minp.esc.cam.ac.uk	es10002@esc,cam.ac.uk	c.n.w.darlington@bham.ac.uk
Hours/week on project	4	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Title of Research Project

(Please do not exceed 108 characters, including spaces)

Physics Programme Network on the theme of Structural Physics

Programme Area

a. If you wish, indicate the EPSRC programme area which you believe should consider this research proposal.
Physics

b. If this proposal has been submitted in response to a specific call for proposals please give details, including date of issue and title of call.
Physics Programme Networks (announced March 1997, Closing date 16 May 1997)

c. If there is more than one organisation submitting an EPS(RP) for this project, please identify.
Yes (Universities of Cambridge, Kent, Birmingham, Oxford, Warwick, QMW, UCL, Keele, Edinburgh, and Liverpool; CRLC ISIS and Daresbury)

d. If this proposal is a resubmission, please give previous research grant proposal Ref no.

Summary of EPSRC Resources Required for Project

a. Financial resources required

	Total £
Staff	5000
Travel and Subsistence	39275
Consumables	1250
Exceptional items	
Equipment	2204
SUB-TOTAL	47729
Indirect costs	2250
TOTAL	49979

b. Summary of staff effort

	Months
Post Graduate RAs	
Post Doctoral RAs	
Technician	
Other	5
TOTAL	5

c. Facilities total

d. Duration of the grant (months)

36

e. Proposed start date

1/10/1997

Investigators (continued)

Details	Co-investigator 3	Co-investigator 4	Co-investigator 5
Title/Initials	Prof R J	Dr M J	Mr K S
Surname	Nelmes	Harris	Knight
Post held	Professor	Staff scientist	Staff scientist
Organisation	The University of Edinburgh	CLRC RAL	CLRC RAL
Division or Department	Department of Physics and Astronomy	Excitations	ISIS Diffraction and Muon Division
Telephone	01235 445285	01235 446397	01235 445220
Fax	01235 445720	01235 445720	01235 445720
E-mail	rjn01@isise.rl.ac.uk	Mark.Harris@rl.ac.uk	K.S.Knight@rl.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Details	Co-investigator 6	Co-investigator 7	Co-investigator 8
Title/Initials	Prof R	Dr P A	Dr N T
Surname	Dupree	Thomas	Skipper
Post held	Professor	Senior Lecturer	Lecturer
Organisation	University of Warwick	University of Warwick	University College, London
Division or Department	Department of Physics	Department of Physics	Department of Physics and Astronomy
Telephone	01203 523403	01203 523354	0171 4193526
Fax	01203 692016	01203 692016	0171 3807145
E-mail	nmrd@spec.warwick.ac.uk	phrve@csv.warwick.ac.uk	n.skipper@ucl.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Details	Co-investigator 9	Co-investigator 10	Co-investigator 11
Title/Initials	Dr R J	Dr W G	Prof R W
Surname	Cernik	Stirling	Whatmore
Post held	Head of X-ray diffraction	Professor	Professor
Organisation	CLRC Daresbury	University of Liverpool	Cranfield University
Division or Department	SRS	Department of Physics	Schoool of Industrial and Manufacturing Science
Telephone	01925 603238	0151 7943380	01234 754057
Fax	01925 603124	0151 7943441	01234 752473
E-mail	r.j.cernik@dl.ac.uk	stirling@liv.ac.uk	r.w.whatmore@cranfield.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Investigators (continued)

Details	Co-investigator 12	Co-investigator 13	Co-investigator 14
Title/Initials	Dr M E	Dr D A	Prof J H
Surname	Smith	Keen	Strange
Post held	Reader	Staff scientist	Head of Department
Organisation	University of Kent	CLRC RAL	University of Kent
Division or Department	Physics Laboratory	ISIS Diffraction and Muon Division	Physics Laboratory
Telephone	01227 827686	01235 446556	01227 823321
Fax	01227 827558	01235 445720	01227 827558
E-mail	mes1@ukc.ac.uk	D.A.Keen@rl.ac.uk	jhs2@ukc.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Details	Co-investigator 15	Co-investigator 16	Co-investigator 17
Title/Initials	Dr S	Dr P	Dr S A T
Surname	Hull	Kidd	Redfern
Post held	Staff scientist	Royal Soc. Univ. Fellow	University Lecturer
Organisation	CLRC RAL	QMW College	University of Cambridge
Division or Department	ISIS Diffraction and Muon Division	Department of Physics	Earth Sciences
Telephone	01235 446628	0171 975 5034	01223-333400
Fax	01235 445720	0181 981 9465	01223-333450
E-mail	S.Hull@rl.ac.uk	p.kidd@qmw.ac.uk	satr@esc.cam.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Details	Co-investigator 18	Co-investigator 19	Co-investigator 20
Title/Initials	Dr I	Dr V	Dr E R H
Surname	Farnan	Nield	van Eck
Post held	University Lecturer	Lecturer	Lecturer
Organisation	University of Cambridge	University of Kent	University of Kent
Division or Department	Earth Sciences	Physics Laboratory	Physics Laboratory
Telephone	01223 333431	01227 827828	01227 823634
Fax	01223-333450	01227 827558	01227 827558
E-mail	ifarnan@esc.cam.ac.uk	vmn@ukc.ac.uk	erhv@ukc.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Investigators (continued)

Details	Co-investigator 21	Co-investigator 22	Co-investigator 23
Title/Initials	Dr G J	Dr C C	Prof W I
Surname	Ackland	Wilson	David
Post held	Lecturer	Group Leader	Group Leader
Organisation	The University of Edinburgh	CLRC RAL	CLRC RAL
Division or Department	Department of Physics and Astronomy	ISIS Diffraction and Muon Division	ISIS Instrumentation Division
Telephone	0131 6505299	01235 445137	01235 445179
Fax	0131 6505212	01235 445720	01235 445720
E-mail	g.j.ackland@ed.ac.uk	C.C.Wilson@rl.ac.uk	W.I.F.David@rl.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Details	Co-investigator 24	Co-investigator 25	Co-investigator 26
Title/Initials	Prof R A	Prof A M	Dr M E
Surname	Cowley	Glazer	Hagen
Post held	Professor	Lecturer	Senior Lecturer
Organisation	University of Oxford	University of Oxford	Keele University
Division or Department	Department of Physics	Department of Physics	Department of Physics
Telephone	1865 272224	01865 272290	01782 583317
Fax	01865 272290	01865 272290	01782 711093
E-mail	r.cowley@physics.ox.ac.uk	glazer@physics.ox.ac.uk	pha70@cc.keele.ac.uk
Hours/week on project	2	2	2
First EPSRC proposal?	No	No	No
Changed organisation?	No	No	No

Joint EPSRC/MOD/DERA Research Grants

Are you willing to have your research proposal considered under the joint scheme, and to accept additional terms and conditions of joint support if the grant is awarded?

No

Name of any contact in MOD/DERA

Detail any MOD/DERA facilities which are needed for the research, and the usage required.

Objectives

List main objectives of the proposed research in order of priority. These objectives should be those which you would wish the EPSRC to use in the evaluation of your work.

1. To maintain the position of the UK Structural Physics community at the forefront of international science.
2. To enhance the understanding of the link between microscopic structure of materials and their macroscopic properties.
3. To nuture and train new talent in the area of Structural Physics.
4. To establish a clear funding base for Structural Physics.
5. To raise the profile of the Structual Physics community.
6. To optimise use of CLRC facilities for Structural Physics research.
7. To disseminate information about new techniques to the Structural Physics community.
8. To bring together experimentalists, theorists and computer modellers in Structural Physics.
9. To provide a forum for industrial partners to learn of the work of the Structural Physics community, and for the community to learn about the interests and priorities of related industrial research.

Summary

Describe the proposed research in about 200 words.

The Physics Programme network in Structural Physics will a) support a series of formal meetings to learn about the activities of the participating groups, b) support a larger number of smaller informal meetings to develop collaborations, c) support collaborative visits of participants to other laboratories, and d) organise a week-long workshop to train people in the diversity of techniques used in the UK Structural Physics community. The presentations at the formal meetings will be published in Journal of Physics: Condensed Matter, and all other activities will be followed by written reports that will be available one the WWW. Industrial partners will be invited to participate in these meetings, and will be given copies of the publications and reports.

Keywords describing areas of proposal.

Condensed Matter, Physics, Ceramics, Neutrons, Synchrotron Radiation

Beneficiaries

Describe who will benefit from the research.

1. The UK Structural Physics community as a whole will benefit from the exchange of expertise, through the nuturing and training of new talent,and through the raising of the profile of the community.
2. Industries concerned with dielectric and optical properties of ceramics, ceramics for energy storage, and silicate ceramics, will benefit from the improved opportunities to collaborate with the UK Structural Physics community.
3. The Earth Sciences community will benefit from the transfer of skills and expertise from the Structural Physics network, enabling new developments in the studies of the properties of rock-forming minerals.

Keywords describing beneficiaries.

Electronic, Energy, Communications

Staff

Name and grade	Starting point on spine	Incrmnt date	EFFORT ON PROJECT Appt date	Dur of appt	% of Full time	Basic starting Salary £	Lond allow	Gross annual salary £	Total cost on grant £
RESEARCH STAFF									
i) Post Graduate RAs									
ii) Post Doctoral RAs									
TECHNICAL STAFF									
OTHER STAFF									
Secretarial support	15000	1/10	10/1997	36	12	15000	No	15000	5000
PROJECT STUDENTSHIPS									
								Total £	5000

Travel and Subsistence

Destination and Purpose	Total £
40 participants to attend three one-day meetings. Average travel £45, average meals £5.	6000
40 participants to attend three two-day meetings. Average travel £45, average accommodation £20, average meals £10.	9000
10 participants to attend 4 informal meetings per year for three years. Average travel £45, average meals £5.	6000
5 participants to visit other laboratories for one week each year, over three years. Average travel £45, 7 nights accommodation £140, 7 days subsistence £140.	4275
40 participants to attend one-week workshop during Year 3. Average travel £50, 6 nights accommodation and subsistence £300.	14000
Total £	39275

Consumables

Specify	Total £
Consumables for support of network (postage, printing etc.)	1250
Total £	1250

Exceptional Items

Not entered.

Equipment

Description of items and country of manufacture	Basic price £	Import duty £	VAT £	Total £
(i) Single items under £250,000				
Portable Macintosh (various)	1875		329	2204
(ii) Single items over £250,000				
			Total £	2204

Facilities and Services

Not entered.

Other Support

Not entered.

Collaboration

Please give details of collaborators and their contributions to the research. These contributions should be in addition to resources identified in preceding sections.

Organisation 1

Name of contact	Dr P F Fewster
Name of collaborating body	Philips Research Laboratories
Address of collaborating body	Cross Oak Lane Redhill RH1 5HA
Telephone	01293 815714
Fax	01293 815500
Email	fewster@prl.philips.co.uk
Type of organisation	Industrial Research Laboratory
Number of employees	260,000 in parent company
Main business area and SIC code	Analytical X-ray diffraction, industrial research

Direct contribution	**Description**	**Value £**
a. cash		
b. equipment/materials		
c. secondment of staff		
d. other	Travel funds for industrial partner to attend meetings (nomimal figure given to allow electronic form to work)	200
	Sub-total	200

Indirect contribution	**Description**	**Value £**
Not entered.		
	Total Contribution	200

Total value of contributions from collaborators	£200

Declaration

In completing this proposal, we confirm that:

a. We have read 'EPSRC Research Grants';

b. if a research grant is offered we will accept the EPSRC Terms and Conditions;

c. we have not entered into any obligations which may conflict with these.

	Signatures	Name in BLOCK CAPITALS	Date
Prinicipal Investigator			
Co-investigators			
Head of Department			
Administrative Authority (position held)			

2 OTHER INFORMATION

This information will NOT be circulated to referees or panels.

Referees

Please give details of three expert referees whom the EPSRC may approach for assessment of this research proposal.

Referee 1

Name	Prof B Rainford
Position held	Professor
Organisation	Department of Physics
Address	The University of Southampton Highfield Southampton SO17 1BJ

Referee 2

Name	Prof C R A Catlow
Position held	Professor
Organisation	The Royal Institution
Address	21 Albemarle Street London W1X 4BS

Referee 3

Name	Prof C T Prewitt
Position held	Director
Organisation	Geophysical Laboratory
Address	Carnegie Institution of Washington 5251 Broad Branch Road NW Washington, DC 20015 USA

Personal Information

The EPSRC aims to encourage equal opportunities. If you are willing to do so, please provide information on your own and your colleagues' age, sex and ethnic origin. We will NOT use this information in the assessment of this research proposal, but only for internal and statistical purposes.

Please give details for each investigator below.

Investigator 1
Date of birth 7/1/1957 Sex M Ethnic origin White

Investigator 2
Not entered.

Investigator 3
Not entered.

Investigator 4
Not entered.

Investigator 5
Not entered.

Investigator 6
Not entered.

Investigator 7
Not entered.

Investigator 8
Not entered.

Investigator 9
Not entered.

Investigator 10
Not entered.

Investigator 11
Not entered.

Investigator 12
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Investigator 13
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Investigator 14
Not entered.

Investigator 15
Not entered.

Investigator 16
Not entered.

Investigator 17
Not entered.

Investigator 18
Not entered.

Investigator 19
Not entered.

Investigator 20
Not entered.

Personal Information (continued)

Investigator 21
Not entered.
Investigator 22
Not entered.
Investigator 23
Not entered.
Investigator 24
Not entered.
Investigator 25
Not entered.
Investigator 26
Not entered.
Investigator 27
Not entered.