



# Positive Spin

The Newsletter of the ISIS Muon Group

Volume 3, Issue 2

April 2014

## News

### WELCOME

"Welcome! As you can see from this issue there is a lot going on in the ISIS Muon Group. It's a great time to maintain your research with muons or start a new project. Enjoy the newsletter and I look forward to reading your proposals in the FAP. Best wishes, Don"

### ISIS Access : 2014

Next ISIS proposal deadline: **16th Oct 2014**. The muon instruments **will not** run during July/Aug cycle to allow radiation levels around the muon target to reduce and work to commence on upgrading the start of the muon beamline

### GROUP NEWS

Peter Baker has taken over from Philip King as secretary of

the International Society for  $\mu$ SR Spectroscopy (ISMS). Please contact [Peter](#) if you would like further details about joining the society and/or have comments or suggestions.

Fiona Coomer is now a committee member of the Royal Society of Chemistry: Solid State Chemistry Group. If you would like further details about joining the group and/or have comments or suggestions please email [Fiona](#)

### RIKEN / RAL MEETING 2014

The 4th Riken-RAL meeting was held on the 4th April 2014 at The Coseners House. This bi-annual meeting provides a forum for muon staff scientists on the RIKEN and RAL beam lines to discuss upgrades, developments and future opportunities

### Christmas Resonates

The BRSG: Magnetic Resonance Group's Christmas Meeting 2014 will be held on Monday 15th Dec 2014 at the Institute of Physics, London. This year the meeting will focus on complementary measurements with muons and other resonance techniques, such as NMR. For programme updates and further information please email meeting organiser, [Steve Cottrell](#)

### OUTSTANDING, PETER!

Congratulations to Peter Baker who was recognised this year as an 'Outstanding Referee' for his work reviewing APS journal manuscripts. Your research is in safe hands, folks!

## Instrumentation

### BEAMLINE UPGRADE

Final preparations are being made for stage one of this year's muon beam line upgrade work. New quadrupoles are being assembled and a 1:1



scale mock-up of the front end area has been built to practice the replacement operation.

### MuSR MAGNET REPLACED

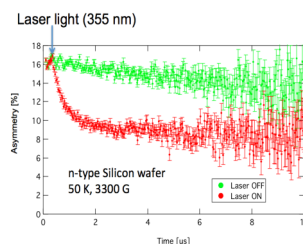
Before Christmas 2013 the MuSR magnet developed a short circuit after 27 years of service. A spare has since been integrated into the instrument.



While there is a small increase in maximum field (~3kG) that can be applied the rest of the instrument remains unaffected

### MUSES UPDATE

The photo-excitation muon project, MUSES ([muses.ph.qmul.ac.uk](http://muses.ph.qmul.ac.uk)) on the HiFi muon spectrometer started in Dec. 2012. The design, construction, and commissioning stages are now complete and early successful test experiments have been performed.



## Science highlights

PAPERS RESULTING FROM ISIS WORK ARE AN IMPORTANT OUTPUT AND INCREASINGLY USED AS A MEASURE OF THE VALUE OF THE FACILITY. PLEASE KEEP US UP TO DATE WITH YOUR PUBLICATIONS. WE HAVE COMPILED LISTS FOR RECENT YEARS THAT ARE NOW AVAILABLE AT [WWW.ISIS.STFC.AC.UK/GROUPS/MUONS/PUBLICATIONS](http://WWW.ISIS.STFC.AC.UK/GROUPS/MUONS/PUBLICATIONS) PLEASE INFORM US IF ANY ARE MISSING.

- MUON STUDIES OF Li+ DIFFUSION IN LiFePO4 NANOPARTICLES OF DIFFERENT POLYMORPHS
- EXOTIC MAGNETISM ON THE QUASI-FCC LATTICES OF THE D3 DOUBLE PEROVSKITES LA2NABO6(B=Ru,Os)
- LOCAL MAGNETISM AND SPIN CORRELATIONS IN THE GEOMETRICALLY FRUSTRATED CLUSTER MAGNET LiZn2Mo3O8
- DETECTION OF TIME-REVERSAL SYMMETRY BREAKING IN THE NONCENTROSYMMETRIC SUPERCONDUCTOR Re6Zr USING MUON-SPIN SPECTROSCOPY
- MUON SPIN RELAXATION REVEALS THE HYDROGEN STORAGE MECHANISM IN LIGHT ALKALI METAL FULLERIDES
- MUON-SPIN RELAXATION STUDY ON Li- AND Na-DIFFUSION IN SOLIDS

## Dates for your diary

- ISIS MUON TRAINING SCHOOL, MAY 2014
- 13TH INTERNATIONAL CONFERENCE ON MUON SPIN ROTATION, RELAXATION AND RESONANCE, JUNE 2014, SWITZERLAND
- 6TH EUROPEAN CONFERENCE ON NEUTRON SCATTERING (ECNS2015), SPAIN, AUGUST 2015
- BRSG: MAGNETIC RESONANCE GROUP'S CHRISTMAS MEETING, 16 DEC 2014

## Any other business...

**PUBLICATIONS** Please inform your local contact and the ISIS User Office of publications arising from work on Muon instruments. A link to the work can then be included on the STFC publications database: <http://epubs.stfc.ac.uk>

**CO-AUTHORS** Please remember to include Muon Group staff as co-authors on publications when deemed appropriate

**CYCLE DATES** Forthcoming cycle dates

Further information: [Muon Group Homepage](#) - [Group Members](#) - [HiFi](#) - [MuSR](#) - [EMU](#) - [ARGUS](#)