MUON-S - Muon Spectroscopy – JRA 8 – FP6

Partners taking part in the Joint Research Activity

P1 CCLRC Muon-S JRA Representative: Philip King (ISIS)

Tasks: Responsible for Work Package 3 – Advanced Techniques, and active participation in all other work packages.

Research Effort: The ISIS Muon group consists of seven PhD level scientists with over sixty person-years of experience using muons for condensed matter investigations between them. All have significant experience of both performing original research using the muon technique, and of running and developing muon facilities for visiting researchers.

Members of the Muon Group who will be involved with the Muon JRA:

1. Dr. Steve Cottrell: responsible for the ISIS EMU spectrometer; expert in radio-frequency μSR development and software

2. ; Prof. Steve Cox: over 20 years of experience with the muon technique and its development;

3. Dr. Gordon Eaton: expert in muon beamlines; responsible for the design of the ISIS muon facility;

4. Dr. Adrian Hillier responsible for the μSR spectrometer;

5. Dr. Philip King: Group Leader - responsible for the management of the ISIS Muon EC Access Contracts and for co-ordinating the JRA Sample Environment work package;

6. Dr. James Lord: responsible for the ISIS DEVA beamline, very experienced in technical developments and acquisition software;

7. Dr. Francis Pratt: responsible for the ARGUS spectrometer at ISIS, experience with data acquisition and analysis software development.

In addition, there is very significant expertise in ISIS technical groups which will be relevant to the present muon JRA, specifically in the areas of detectors, electronics and sample environment. The Group also has a current collaboration with the Instrumentation Department at RAL to explore initial ideas for position-sensitive tracking detectors. Therefore, in addition to co-ordinating WP3, the ISIS Group will actively participate in all other work packages.

P2 PSI Muon-S JRA Representative: Dierk Herlach (PSI)

Tasks: Responsible for Work Package 1 - Detectors (focal persons: Elvezio Morenzoni and Robert Scheuermann) and active participation in all other workpackages.

Research Effort:

The Laboratory for Muon Spin Spectroscopy (LMU) at PSI consists of two groups, the Bulk-μSR Facility group (BMF) and the Low-Energy Muons group (LEM) with many years of scientific, experimental and technical experience in the fields of condensed matter research with muons, development of unique μSR techniques, and the design and running of spectrometers that are used for μSR research by PSI and visiting researchers. LMU members involved in Muon-S JRA:

1. Dr. Alex Amato: BMF Group Leader, GPS Instrument Scientist, Research, Instrumentation, DAQ;
2. Christopher Baines: LTF Instrument Scientist, Technician;
3. Xavier Donath: Technician;
4. Dr. Dierk Herlach: Dr. Dierk Herlach: LMU Laboratory Head, Management, Instrumentation
5. Dr. Hubertus Luetkens: ALC/DOLLY Instrument Co-Responsible, Research;
6. PD Dr. Elvezio Morenzoni: LEM Group Leader, Management, Research;
7. Dr. Thomas Prokscha: LEM Scientist, Research, Instrumentation, DAQ;
8. Dr. Andrea Raselli: Computing, DAQ, hard- and software.
9. Dr. Robert Scheuermann: DOLLY Instrument Scientist, HMF-μSR Development, Research, Instrumentation, DAQ;
10. Dr. Alexey Stoykov: ALC Instrument Scientist, Research;
11. Dr. Andreas Suter: LEM Scientist, Research, Instrumentation, DAQ;
12. Hans-Peter Weber: LEM Technician;
13. Dr. Ulrich Zimmermann: GPD Instrument Scientist, Instrumentation, DAQ;

For the development of custom position sensitive detectors and chips the use of specific know-how of specialized groups is of extreme importance. Such a group responsible for the construction of vertex detectors and chip design for particle physics experiments, is available at PSI. A possible collaboration with this group has been laid out. In addition, valuable contributions to the development of new detector systems can be obtained from the detector group at PSI. PSI has also specialized groups in the development of fast electronics.

P3 OU Muon-S JRA Representative: Stephen Blundell (Oxford University)

Tasks: Responsible for Work Package 2 - Instrument Simulation (focal person: Stephen Blundell), together with its relevance to WP1 and WP3.

Research Effort: The Oxford Muon Group consists of a group leader (Stephen Blundell), one senior research fellow and three research students.

P4 INFM Muon-S JRA Coordinator: Cesare Bucci (INFM - Parma)

Tasks: The Parma muon group is responsible for Work Package 4 and will participate also in the activity of WP1 - Detectors and WP3 - Advanced Techniques.

Research Effort:

Members of the group who will be involved in these activities are:

1. Prof. Cesare Bucci: JRA co-ordinator, high fields, positron track reconstruction;
2. Prof. Roberto De Renzi: High fields, detectors;
3. Prof. Germano Guidi: high fields, detectors;
4. Dr. Giuseppe Allodi: Advanced techniques, pulsed RF;
5. Manpower will also include one graduate student.