



Introduction, Joe Herbert, ASTeC Vacuum Science Group

ASTeC Accelerator Science and Technology Centre

RGA  **Introduction**
users meeting 7

Joe Herbert
Chairman Organising Committee RGA7
Group Leader - Vacuum Science (ASTeC)
Daresbury Laboratory (CCLRC)



20th September 2006

Session 1:
Chairman Joe Herbert (ASTeC Vacuum Science Group)

10:00 Welcome to Daresbury Laboratory (John Dainton, Director of The Cockcroft Institute)
10:05 Introduction to the RGA User Group and outline plan of the meeting (Joe Herbert, Chairman RGA User Group Committee)
10:20 RGA experiences in the XHV regime (Keith Middleman, ASTeC Vacuum Science Group)
10:40 Soft Ionisation Techniques (Terry Whitmore, Hidden Analytical)
11:00 COFFEE

Session 2:
Chairman Shaun Hughes, CCLRC Rutherford Appleton Laboratory

11:30 Leak Detectors and RGA's for Vacuum Diagnostics (Günter Peter, Pfeiffer Vacuum)
12:05 Ion source for a miniature RGA: results and simulation for Zone 1 and Zone 3 operation. (Neil France, T Hogan, B Brkić & S Taylor, University of Liverpool) Student presentation sponsored by BOC Edwards
12:25 Introduction to Salford University MSc course (Richard Pilkington, University of Salford)
12:40 LUNCH

Session 3:
Chairman Steve Shannon (SS Scientific Ltd)

14:00 Latest developments in Web-enabled RGA and other communication options. (James Higgins, MKS Instruments)
14:20 Progress in the RGA System for Diamond (Hugo Shiers, Diamond Light Source)
14:45 In-situ calibration of RGAs (Oleg Malyshev, ASTeC Vacuum Science Group)
15:10 Close of meeting (Steve Shannon, SS Scientific Ltd)
15:15 TEA / COFFEE

15:45 TOURS/Meeting Close

ASTeC Accelerator Science and Technology Centre

ASTeC = Accelerator Science and Technology Centre

- CCLRC Team based at here at Daresbury with staff at the Rutherford Appleton Laboratory
- **Mission is to carry out programmes of research and design as a centre of excellence in the field of accelerator science and technology in support of CCLRC's strategic objectives.**
- Approx. 50 staff divided into the following disciplines:
 - Accelerator Physics
 - Magnets and Radiation Sources
 - Radio Frequency Systems & Beam Diagnostics
 - **Vacuum Science**
 - Intense Beams

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Current ASTeC Programmes

- International Linear Collider Project (ILC)
- Neutrino Factory and MICE
- ERLP and 4GLS Electron Accelerators
- Accelerator Support (SRS, DIAMOND)
- Proton Drivers (ISIS)
- Novel Accelerator Initiatives
 - FFAG
 - Laser Plasma
 - FAIR
 - IFMIF
- Underpinning R&D
 - SC RF
 - NEG Coatings

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The Role of the Vacuum Science Group

- **Vacuum Science Group**
 - Design and Specification of vacuum systems for approved ASTeC projects and Collaborations
 - CCLRC's advisory centre for vacuum related issues.
 - Programme of Vacuum Science Research Including:
 - **NEG coated vacuum vessels**
 - Cleaning techniques
 - **Photocathode Development including XHV Studies**
 - Evaluation of Vacuum Equipment for projects
 - **Characterisation of Materials for vacuum**
 - Calibration

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Vacuum Science Group and RGA

- Fundamental Tool Critical to Work Programme (**100**)
 - **Qualitative Analysis of Gas Species** (e.g. cleaning, characterisation of materials, component and system acceptance)
 - **Accelerator Vacuum System Diagnostic Tool** (including beam steering problems, beam obstruction, cooling problems, etc.)
 - **Quantitative Tool** (measuring gas density by careful calibration)
 - **Insitu Leak Detector**

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