



EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
IRMM
Institute for Reference Materials and Measurements
JRC Reference Laboratory for Radionuclide Metrology

Geel, 2001-03-28

Ref: RN/174

file: CCRI(II)01-16.doc

Report on the activities of IRMM-RN since the CCRI(II) Meeting in 1999

Under the 5th Framework Programme (1999 – 2002) the JRC Reference Laboratory for Radionuclide Metrology works on four topics. These are: (1) Primary standardisation, (2) Characterisation of reference materials for their radioactive components, (3) ultra-low level radioactivity measurements, and (4) work for international metrology organisations in the field of radionuclide metrology.

1. Primary standardisation: Apart from supplying standard solutions for Commission services, we participated in CCRI(II) and EUROMET comparisons, e.g. ^{237}Np , ^{152}Eu , ^{89}Sr . Additionally, we participated in the CCRI(II)-WG on the ^{204}Tl problem and helped in the preparation of the ^{238}Pu comparison.
2. Characterisation of reference materials for their radioactive components: We characterised a NIST shellfish CRM and started with the characterisation of IAEA milk powder, soil and sediment RMs. For the NUSIMEP programme we characterised RMs for actinides and natural occurring radionuclides.
3. Ultra-low level radioactivity measurements: Most of this work is carried out in the underground laboratory HADES. We measured swipe samples for Nuclear Safeguards (DG TREN), Zn impurities in GaAs in co-operation with HMI, Berlin, participated in an ^{26}Al (in meteorites) comparison in co-operation with MPI Mainz, measured samples from the JCO accident to determine the n-flux at various sites around the plant, and measured ^{210}Pb in human bones for the assessment of Rn intake. Additionally, we started the CELLAR network, a Cupertino of European underground laboratories.
4. Work for international metrology organisations: Such work includes the co-ordination of and participation in working groups or taking office in CCRI(II), EUROMET and the ICRM. Especially work for Appendix C is worth to mention.

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