



TC for ionising radiation; Dosimetry, Radionuclides and Neutrons

TC-IR









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Radioactivity in Industrial Processes

- Enhanced natural radioactivity in industrial processes presents high exposure to workers and users
- About 23 millions of workers exposed to radiation world wide mainly in developed countries with the majority working in the non-medical industry.
- Release of radioactivity from Industry interferes with monitoring networks

Nuclear Industry

- Safe and efficient use of nuclear power
- Decommissioning of old nuclear sites will be required as well as improved waste management and minimised radioactive waste
- Metrology for New Build to meet CO₂ emission targets





Homeland Security

- Prevention and reduction of significant security threats
- Preparedness in case of "event", e.g. terrorism or Fukushima

Climate Change

Climate change is one of the major concerns of today's politics, economy, technology and research.

Science

- Applications of radionuclide metrology to new or other fields of science
- Relation between the Bq and the SI base units for mole and mass





Radioactivity in Industrial Processes Development of metrology for:



- Consistent and reliable control of naturally occurring radioactive material
- Conformity with recommendations and EU council directives
- Improved accuracy in monitoring networks for radioactive releases

Nuclear Industry

- Improved safety, sustainability and reduced environmental burden in the use of nuclear power
- Better and safer control in Decommissioning operations
- Improved accuracy in waste sentencing
- Reduced environmental impact and socio-economic benefits from better radioactive waste management





Homeland Security

Prevention of significant security threats by

- improved detection networks and monitoring of food stuff
- Development of Nuclear Forensics
- Development of quick, specific, high yield chemical analyses
- Improved de-contamination methods

Climate Change

- Development and support for radionuclide tracer methods including low-level techniques and mass spectrometry
- Provide accurate and traceable measurements of radionuclides

and isotope ratios for accurate conclusion regarding climate change

Science

- Detector developments applied to other fields e.g. X-ray detection in space applications
 - Relation between activity and mass investigated as a unit by implementing new technology such as single atom counting



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