

International School on Nuclear Methods for Environmental and Life Science



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RADIOACTIVE NUCLIDES IN THE ATMOSPHERE and MEASUREMENT TECHNIQUES FOR FAST ENVIRONMENTAL MAPPING OF CONTAMINATED SITES

Introduction to natural and artificial radionuclide sources in the atmosphere Cosmogenic radionuclides (eg ^7Be , ^{22}Na ...) and ^{210}Pb from terrestrial origin and their use in global atmospheric models Radioactive aerosols and their diameter, AMAD value, penetration to the lungs, dose assessments Instruments for collecting radioactive nuclides in the atmosphere, collecting substrates, instruments for measuring the air filters Long range transport of radionuclides in the atmosphere, example of Chernobyl and Fukushima accident Specific measurements in the region of Thessaloniki, Greece and Milano, Italy after the Fukushima accident ...FURTHERMORE, a short introduction how we measure in the same air filters trace elements or heavy metals by nuclear techniques eg. XRF and INAA.

How can we fast characterize an area if it is high contaminated or not? What about the remediation of large

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