



## **High Sensitivity Xe Monitoring for CTBTO Task and NPP Radiological Emergency Monitoring**

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The presentation contains concepts and information regarding techniques which can significantly increase Xe measurement sensitivity. This recommended technique involves the use of samples acquired from air separation plants supporting the bulk production of nitrogen, oxygen and other gases for use in industry and hospitals. Due to these large Xenon sample volumes and recently developed spectrometric systems, estimated Minimum Detectable Concentrations for all four xenon isotopes are below  $1\mu\text{Bq}/\text{m}^3$ . The recordable Xenon sensitivity of the proposed method allow the measurement of Xe131m, Xe133, Xe133m and Xe135 isotopes in each sample of ambient air. This technique can also likely be used for studies to better understand the Xenon background and also for early warning in case of NPP problems (leakage of fuel rods and etc.) or accidents.