

63 – A xenon SAUNA lab System for Measurements of a High Diversity of Samples

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A SAUNA xenon lab system is operated at the Swedish xenon laboratory. The system has been running since 2009 and is used for a large variety of samples, ranging from subsoil samples with stable xenon volumes as low as 0.1 ml up to samples from the SPALAX-NG systems with a xenon volume of up to 6 ml. The high dynamic range of sample sizes puts special demands on the performance stability and calibration of the system. A good characterization of the system for all parts of the process is important to be able to minimize measurement uncertainties. This includes determination of the transfer losses during the sample process, GC-calibration for a wide range of xenon volumes and detector calibration for different sample sizes. Today the system is used for multiple purposes including participation in proficiency test exercises, measurement of samples from field exercises, re-measurement of samples from the Swedish xenon IMS-system and measurement of samples during development of new systems. The system and its calibrations together with results from some of these measurements will be presented.

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Promotional text

The Swedish SAUNA xenon lab system is used for measurements of samples from a number of different sampling systems. Characterization and calibration of the system for a wide range of sample volumes have been performed.

Oral preference format

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