

Hyper-sensitive Gamma spectrometry – approaching the ultimate limit

The Comprehensive Nuclear Test-Ban Treaty (CTBT) International Monitoring System (IMS) provides a network of 120 Radionuclide detection systems, strategically positioned around the globe with the aim of detecting radionuclide emissions from nuclear explosions. The UK CTBT laboratory (GBL15, based at the Atomic Weapons Establishment, UK) routinely monitors this network for the UK government, assessing events, reviewing data, and re-measuring IMS samples from around the world. The laboratory also undertakes substantial research, with the aim of increasing the overall sensitivity of the monitoring regime. This submission will discuss the improvements possible for the monitoring regime, and the potential gains that are yet to be made.

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