



Patent Title: Improved Target Composition Determination Method and Apparatus

AgResearch Ref: 3GX Non Multi-Variate Calibration

Inventors: R. Burling-Claridge, P. Petch, M. Upsdell, S. Zavtrak

- ✚ 3GX uses x-ray absorption and spectral analysis to detect and identify specific materials contained or concealed within a background of other, similar materials

Background

DXA analysis distinguishes materials based on density (atomic weights) and, at higher atomic numbers, electron shells. Therefore materials with similar atomic weights are not readily discriminated and imaging processing is required to discriminate materials based on shape.

Invention

Using a non-multivariate analysis method and multiple energy levels, materials of similar chemical composition and/or molecular weights are able to be discriminated spectrally, even against complex and confounding backgrounds. Dosage rates are significantly less than CT scans

Uses of the Invention

The technique has been demonstrated in security baggage checking applications. Applications could include: early cancer detection and diagnosis; tissue discrimination; metallurgical and ore analysis (on the conveyor); real-time analysis of oil and other complex fluids (inside the pipeline);

AgResearch Contact

Dr Ian Boddy
General Manager – Business Group
AgResearch Limited
Private Bag 3115
Hamilton
New Zealand
Email: ian.boddy@agresearch.co.nz