



The **Realisation** of Research

Radiation Location System with Directional Sensitivity

Case ID:

44-020

Web Published:

Jan 6, 2012

Category(s):

Imaging - Medical

Description:

RadICAL (Radiation Imaging Cylinder Activity Locator)

Available for: Licensing and co-development

Summary

Professor Robert Speller and his team at University College London (UCL) have developed a novel radiation location system with directional sensitivity suitable for surveillance and mapping of radioactive isotope distributions. This technology is currently available for licensing and UCL Business PLC, UCL's wholly owned commercialisation company, is actively seeking partners for onward development.

The Technology and its Advantages

There are many detection systems available for identifying the presence of radioactive/nuclear materials but many applications require both the presence and location of the source to be found. This can be achieved with expensive imaging systems such as those used for medical isotope mapping (Gamma cameras, Compton cameras) but such systems are not portable and are too expensive to be considered suitable for in-field deployment. An inexpensive and portable alternative has recently been invented at UCL.

The UCL system provides directionality sensitivity through a rotating sheet of radiation sensitive material that presents a different area to the incident photons from a source of radiation. When the sheet is 'face on' to the source of radiation the signal is largest and when 'edge on' it is smallest. Thus the direction can be found. A second sheet rotating on an axis at 90° to the first will locate the source in latitude. The key advantages are that it is light-weight (as it has no collimator); it has increased sensitivity (as there is no collimator to restrict its view); it can be left to acquire data unattended (it does not need an operator to control the direction of viewing) and it relies on "off the shelf" cheap component parts which could be easily manufactured into a product for sale.

Market Opportunity

The detector has potential in any environment where it is important to monitor ionising radiation. These include well controlled environments such as research laboratories/hospitals and also nuclear decommissioning, nuclear clean up operations, border control, cargo surveillance, and monitoring large areas for nuclear activity.

Intellectual Property Status

Patent applications covering this technology have recently been filed. Claims cover the configuration for generating directional sensitivity.

Further Information

Please contact Dr. Chris Williams, UCL Business PLC, T: +44 (0)20 7679 900 E: c.williams@uclb.com

For Information, Contact:

Chris Williams
Business Manager
UCL Business PLC
020 7679 9000
c.williams@uclb.com

Inventors:

Robert Speller

Keywords:

Direct Link:

<http://uclb.technologypublisher.com/technology/8658>