

Lung tumors identifiable by single-photon light

Scientists in the UK have developed a new technique that uses light to locate objects deep within biological tissue and which could help physicians better diagnose lung diseases. Implemented without bulky equipment and in the glare of fluorescent lighting, the technique involves precisely measuring how long it takes single photons to leave the body after being sent down a fibre-optic extension of an endoscope.

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It involves simply sending additional pulses of light down the fibre and then observing where they leave the body. [...] Because these essentially “ballistic” photons travel in a straight line they not only reveal where they come from – the fibre tip – but they also emerge from the body ahead of all the other photons. So the trick in establishing the tip’s location is to time the arrival of the photons so precisely that the ballistic ones can be isolated from the rest.

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Ultimately, adds [scientist Michael]Tanner, the group hopes to apply the new technology more broadly. Being relatively simple and compact [...] he reckons that the technology could in principle be applied to all medical procedures in which instruments are inserted into the body, such as key-hole surgery and interventions requiring catheters.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Single photons pinpoint objects inside living tissue](#)