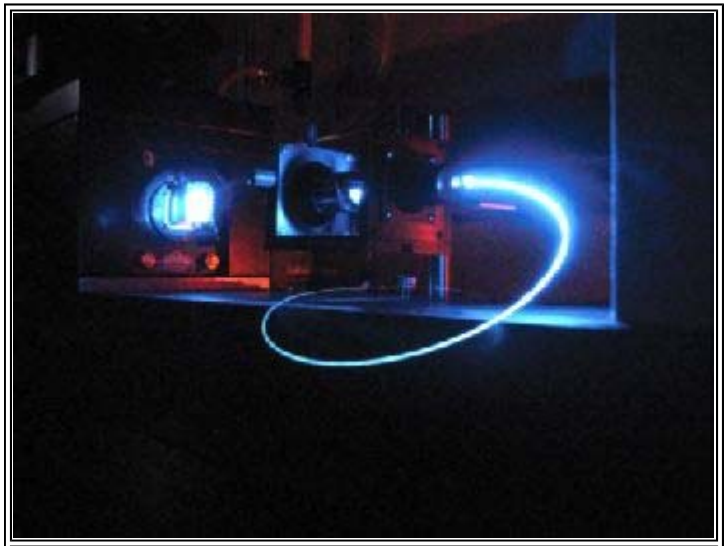
MatterNews

Single particles of light have a market (3/8/2008)

Tags:

photons, light, quantum mechanics

The world's first commercial product delivering individual photons of light has been developed by researchers from Quantum Communication Victoria (QCV), based in the University of Melbourne's School of Physics.



Critical moment: Single Photon Source opens way for many new quantum technologies

The technology uses the unique properties of diamond to produce single particles of light (photons) on demand at room temperature.

The Single Photon Source was launched at the recent Optical Fiber Communication Conference and Trade Fair in San Diego, USA,

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"This is a critical moment in the development of quantum-based technologies for practical use," says QCV CEO Dr Shane Huntington.

"The availability of a commercial single photon source will enable many viable quantum technologies to reach the market place."

The device, which can be accessed with a standard optical fibre connection, has the potential to be used as a component in secure telecommunications systems, for quantum metrology and other quantum-based applications.

"As an initial application the Single Photon Source will be integrated with existing commercial Quantum Cryptosystems,

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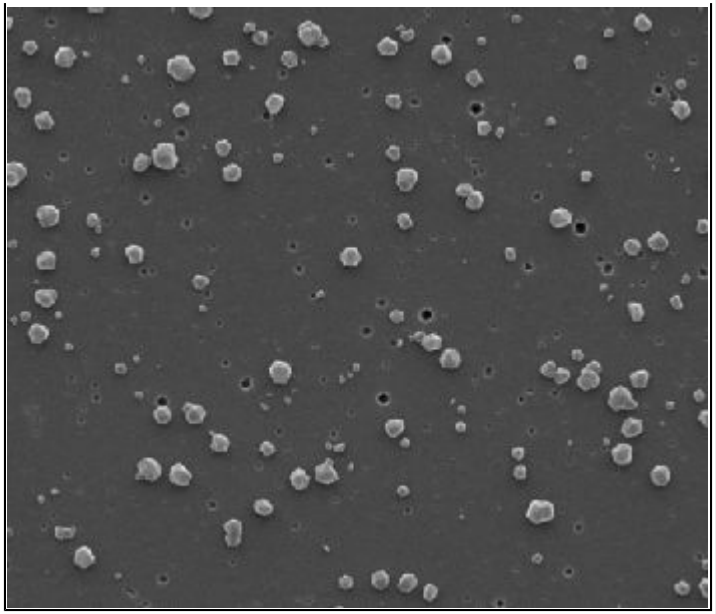
drastically improving their performance and providing 100 per cent secure telecommunications," Dr Huntington says.

QCV is considering commercial partners and investors to participate in a start-up company which will pursue commercialisation of the Single Photon Source in various markets.

The Melbourne-based development team is collaborating with Magiq Pty Ltd, a Boston-based supplier of Quantum encryption equipment, to optimise the integration of the Single Photon Source with existing Quantum Key Distribution systems, with testing and field trials the next step.



Single crystal diamonds grown by QCV for the Single Photon Source technology.

Further work is being undertaken in investigating the various other applications for the QCV Single Photon Source including: other quantum applications, microscopy and optical sensing.

QCV is supported by a Victorian State Government Infrastructure grant. Dr Huntington says it is the first group in the world to produce such a device.

Note: This story has been adapted from a news release issued by The University of Melbourne

Comments:

1. **puttputt**

   3/9/2008 2:58:26 PM MST

   THESE DUMMIES SHOULD BE SELLING THE DIAMONDS THAT THEY GROW!!!

2. **Anonymous**

3/9/2008 9:44:28 PM MST

You know they probably produce diamonds too small to actually be marketable, also there are a few companies that currently make diamonds for the purpose of selling... (Apollo Diamonds and Gemesis)

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3. **grawspec**

3/10/2008 2:06:20 AM MST

they wouldn't sell them to have people put them around their neck or to make them look fancy, they'd likely be applied in industry, impossibly small diamond cutting is where it would be used I suppose

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