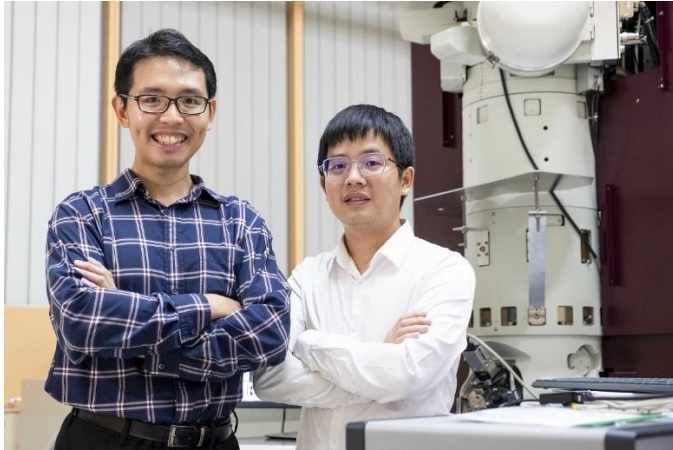




Mirage News (Australia)

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## Scientists Demonstrate Quantum Recoil, Advancing X-Ray Imaging



For the first time since it was proposed over 80 years ago, scientists from NTU Singapore have demonstrated a theoretical phenomenon called “quantum recoil”.

The theory describes how the particle nature of light has a major impact on electrons moving through materials.

The researchers’ experimental results, which were published online in the journal Nature Photonics in January 2023, suggest that quantum recoil causes X-rays to lose energy.

By accounting for this effect, businesses could produce X-rays of specific energy levels more accurately for practical applications.

Two Singapore companies are keen to use a patent the researchers filed based on the study and earlier findings to help them develop more precise X-ray machines for imaging human tissue samples and detecting flaws in semiconductor chips.

Nanyang Assistant Professor Wong Liang Jie from NTU’s School of Electrical and Electronic Engineering, who headed the latest research, said that future work the scientists are planning include studying situations where the quantum recoil effect is expected to be large.

<https://www.miragenews.com/scientists-demonstrate-quantum-recoil-advancing-932448/>