Diffraction-Based Tool to Detect Virus

Source: TH

Researchers have **developed a method** to identify infected cells by observing **how they distort light.**

- They tracked these distortions over time to mimic a **progressing infection** and compared them to healthy cells, identifying a **unique 'fingerprint' for** virus-**infected cells.**
- Researchers infected pig testicle cells with **the** pseudorabies virus, shone light through them, and **observed distinct** diffraction **patterns** based on **contrast and texture.**
    - **Diffraction** refers to **light waves spreading out** after passing through narrow openings or around objects, **creating patterns of light and dark stripes.**
- The light-based technique **detects infections in about two hours,** costing a **tenth of** the required for **traditional** 40-hour **chemical reagent methods**, and avoids reagent-related delays and supply chain issues.
- The **low cost and ease of use of the light-based detection method** make it ideal for the early identification of viral infections in **livestock and pets,** aiding in breeding, preventing economic losses during outbreaks, and **supporting the** World Health Organization's (WHO) **rapid response recommendations,** especially in **resource-limited countries.**
- Earlier, scientists have developed a highly accurate holographic imaging method using laser beams to detect viruses and antibodies within 30 minutes, utilizing **xSight, an instrument by Spheryx.**

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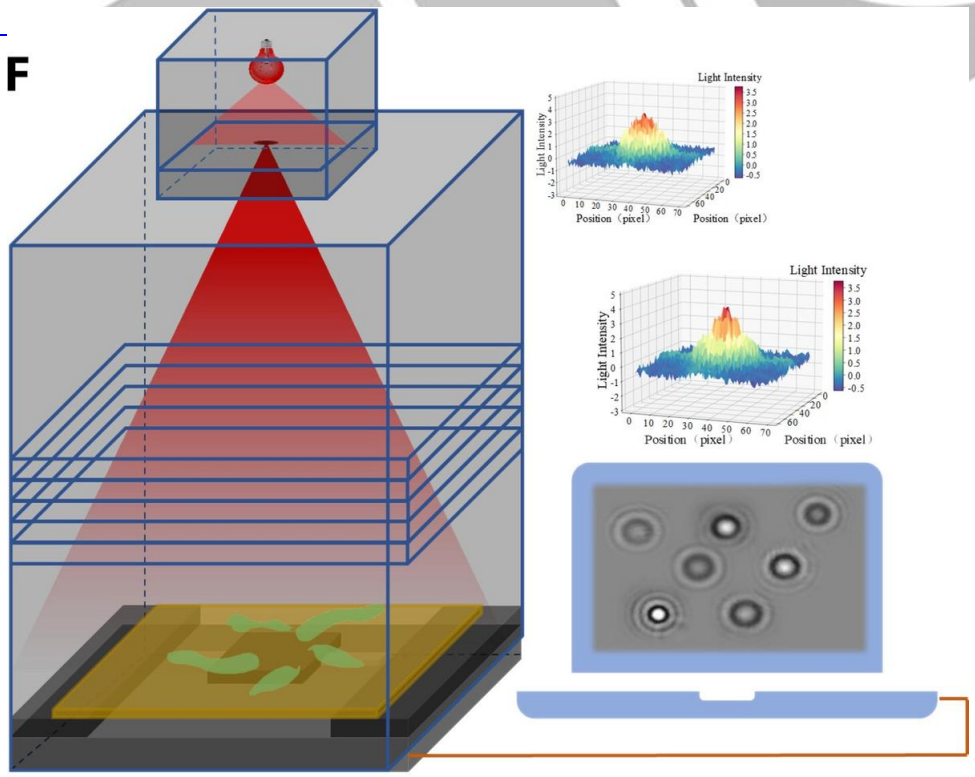

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