

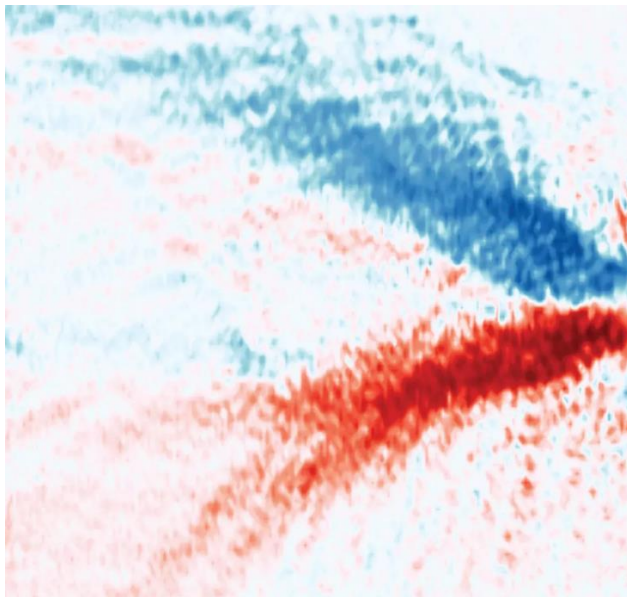
## Head Topics

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12 Dec 2024

#### **NTU scientists achieve breakthrough in high-speed data processing with room-temperature polaritons Singapore**

IndepdentSG



SINGAPORE: Researchers at Nanyang Technological University have achieved a groundbreaking advancement in the field of computing and data processing by successfully manipulating polaritons—hybrid particles that exhibit both light and matter characteristics—at room temperature. This innovation paves the way for ultra-fast computing technologies.

However, until now, such manipulations were only feasible at extremely low temperatures, akin to the frigid conditions of outer space. This requirement made practical applications costly and logistically challenging. The researchers achieved this feat by using a green laser to generate polaritons in a specialized material, caesium lead bromide, combined with a layer of liquid crystal molecules in a microcavity structure. By applying an external voltage, they controlled the spin and movement of the polaritons, enabling them to act as carriers of data.

<https://headtopics.com/sg/ntu-scientists-achieve-breakthrough-in-high-speed-data-63304893>