



PHOTONIC CONTENT ADDRESSABLE MEMORY

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Content Addressable Memories (CAMs), also known as associative memories, are a specialized type of computer memory used in high-speed searching applications. In a conventional computer memory, the memory receives an address as an input and provides data stored at the location indicated by that address. In contrast, a CAM receives an input designating stored data, and compares that input against a table of stored data to return the address of matching data. CAM is widely used in networking applications, especially in routers and switches to route data.

The Invention

UW-Madison researchers have developed a new optical content addressable memory (CAM) array that can perform large parallel CAM operations. This photonic CAM provides advantages over conventional CAMs in its ability to receive photonic or light input data and provide photonic or light output with reduced transmission delays and high throughput. The CAM may accommodate parallel operations through the use of multiple light frequencies.

Tech Fields

- [Information Technology : Computing methods, software & machine learning](#)
- [Information Technology : Hardware](#)

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