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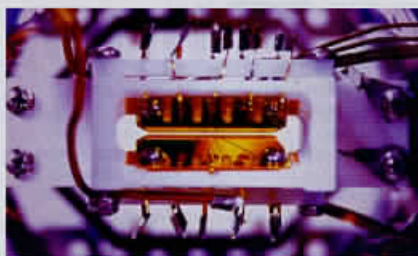
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A photograph of an ion trap, showing four blades forming the electrodes of a radiofrequency Paul trap confining a linear chain of ions that can be optically addressed. Shantanu Debnath and colleagues demonstrate a device that marks a landmark in computing: a programmable quantum computer using five trapped ions as qubits. It is reconfigurable and different algorithms can be compiled without changing the hardware.

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