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2002 Symposium
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David A. Honey
Deputy Director,
Microsystems
Technology Office
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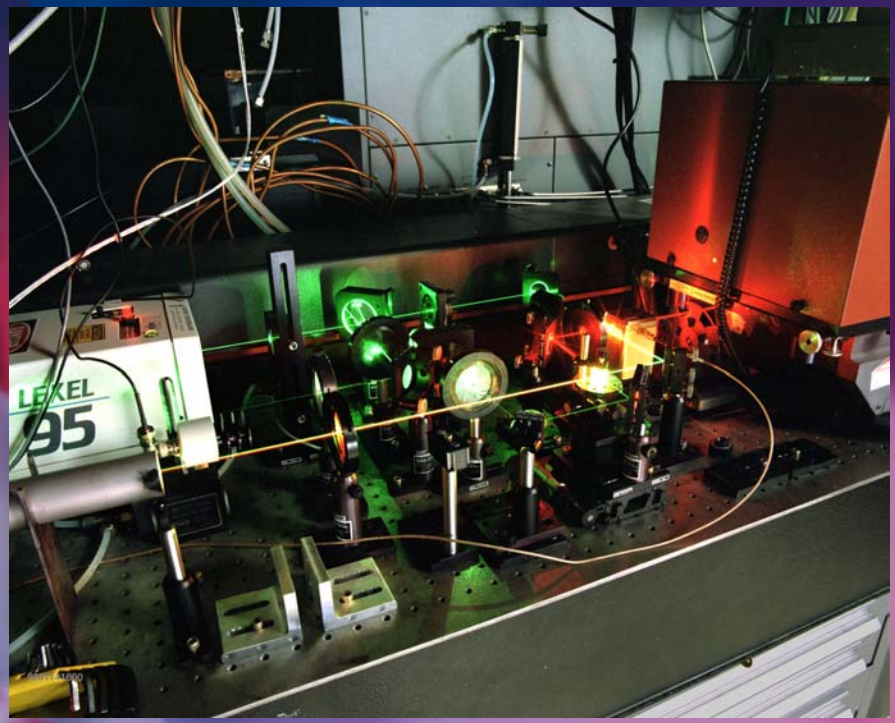
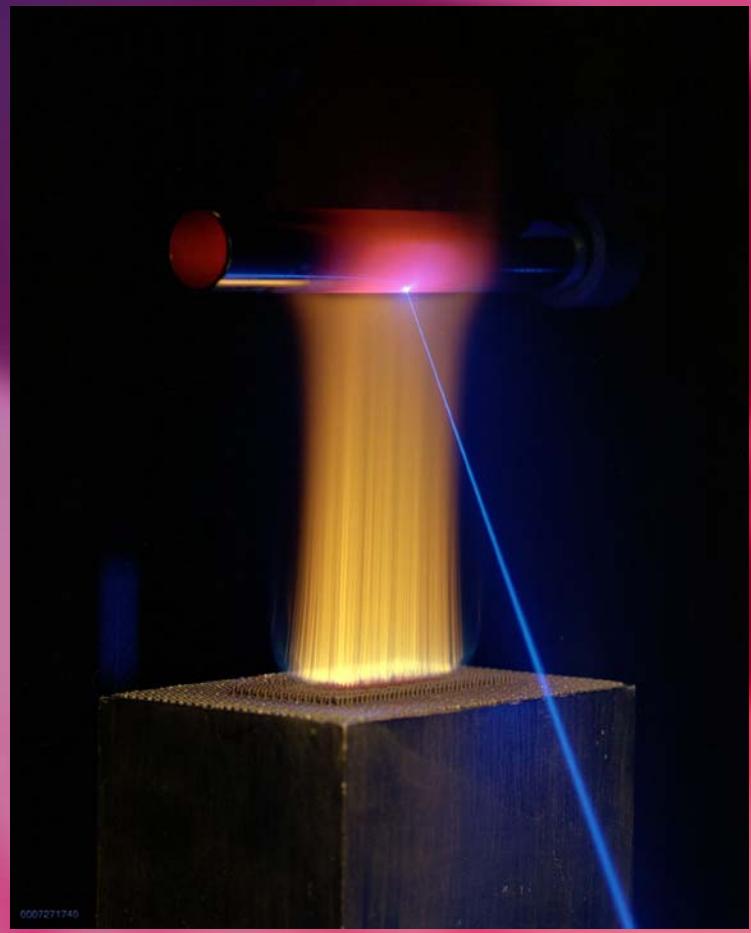
Lasers – Photonics' Best Known Devices





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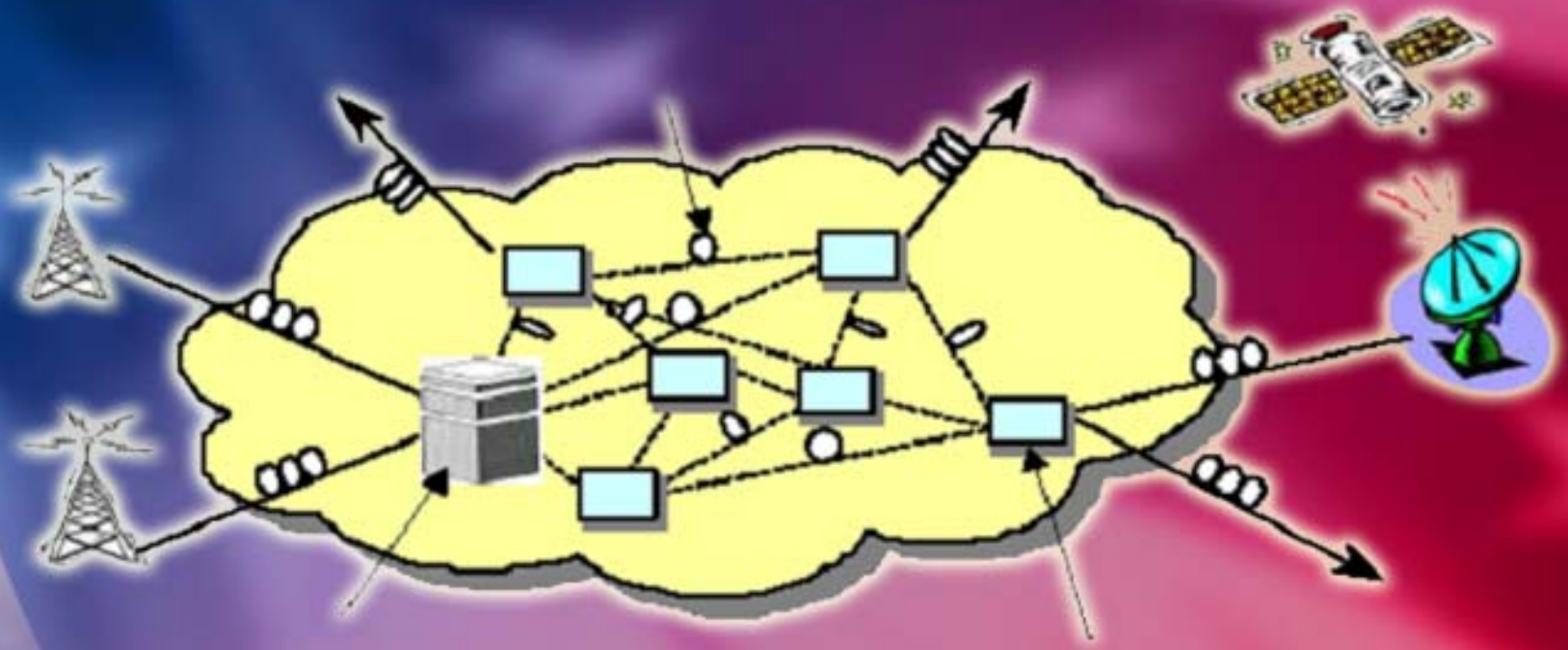
Distribution Statement A. Approved for public release; distribution is unlimited.

Commercial Fiberoptic Telecom



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Laser Guided Weapons

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Night Vision Equipment for the Warfighter

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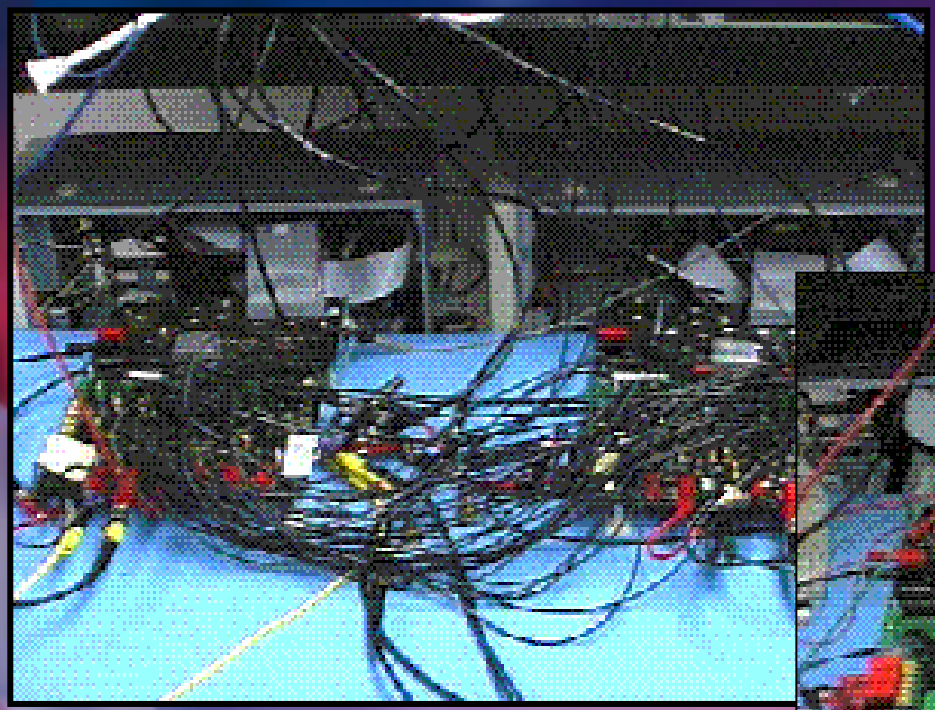
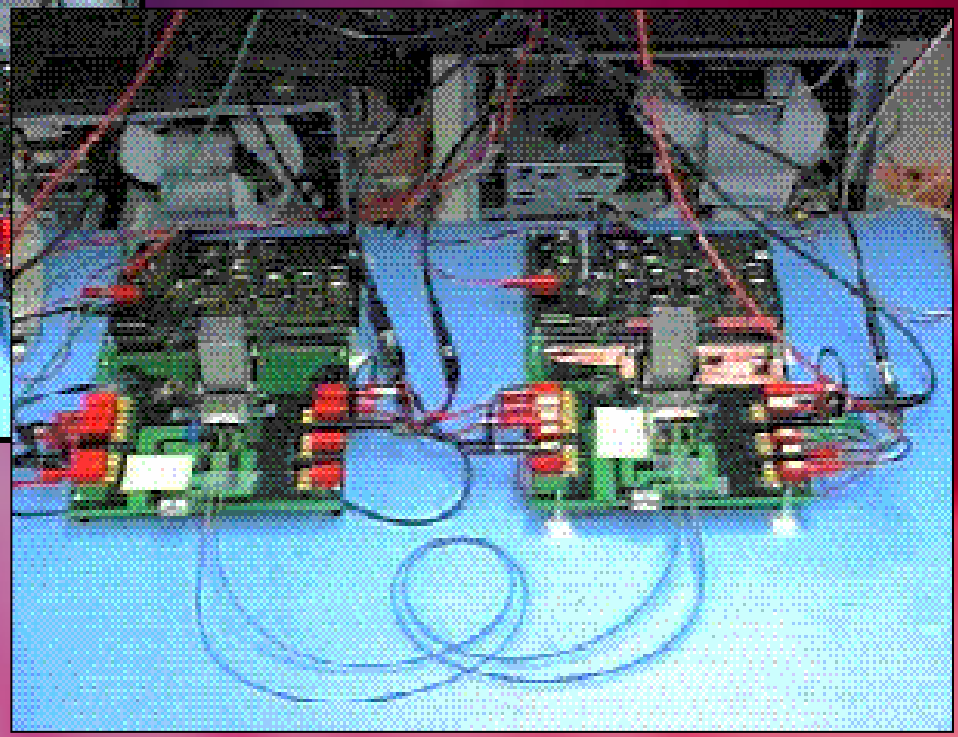
The Impact of Fiberoptics





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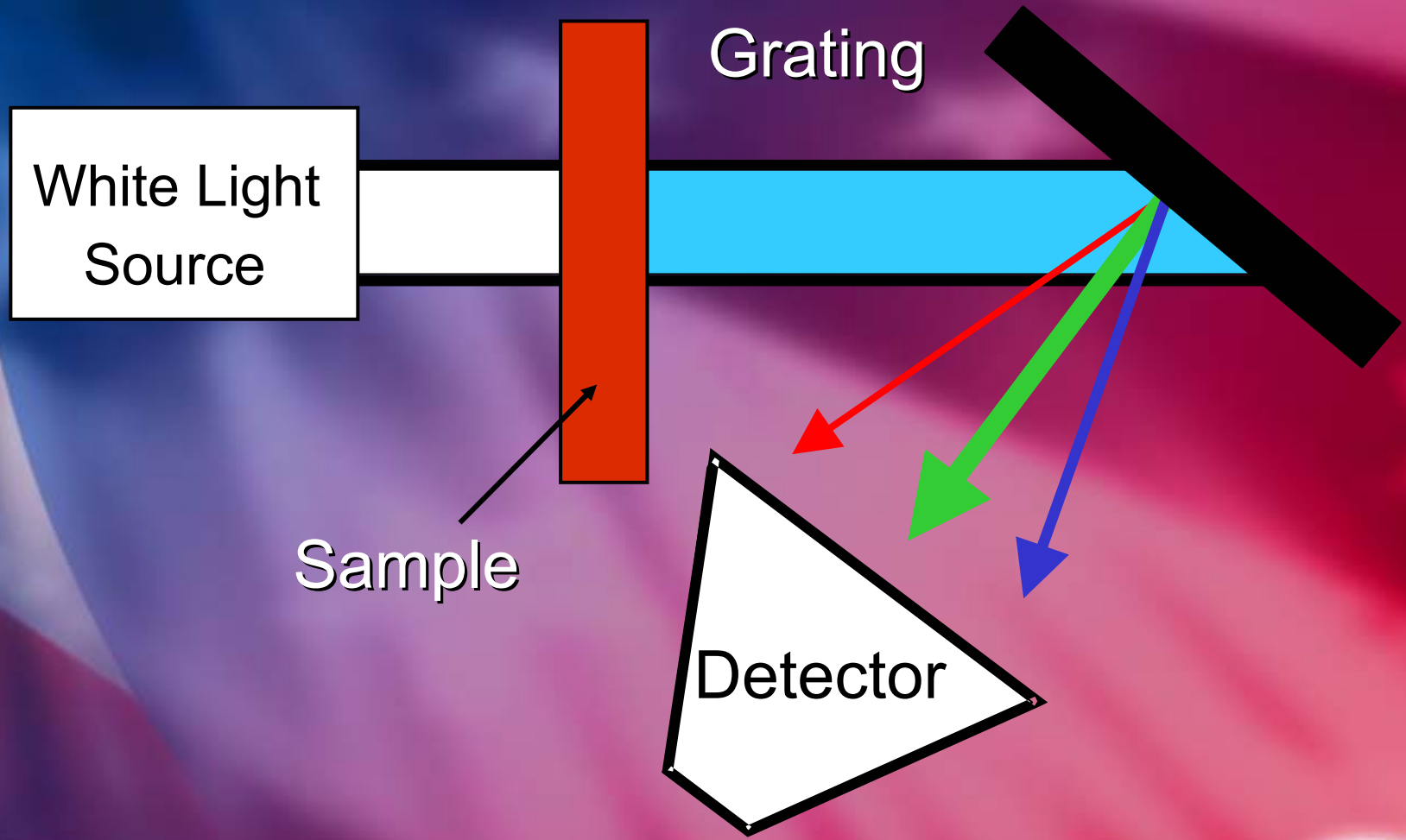
Conventional Spectrometer Setup



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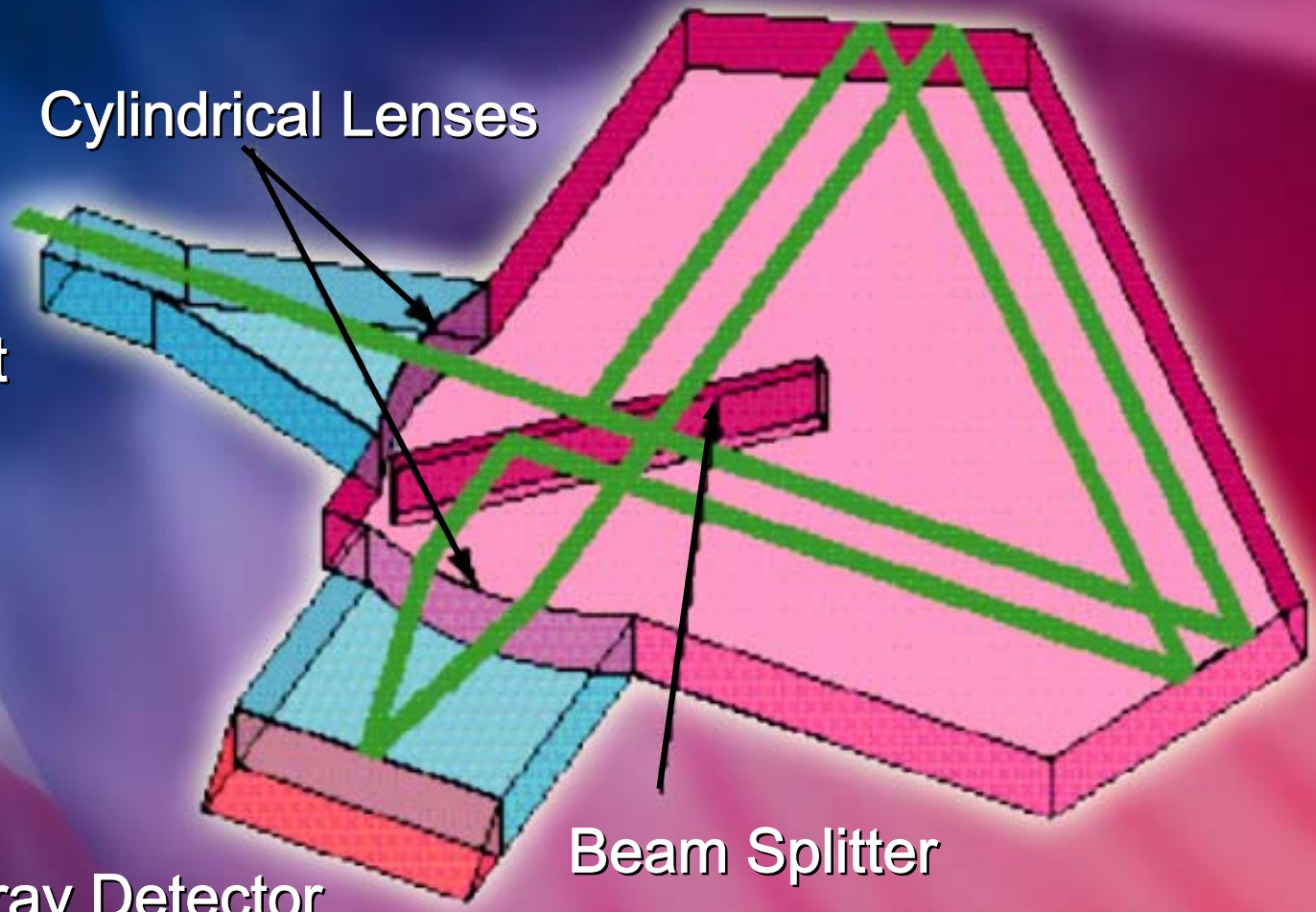
Spectrometer-on-a-Chip



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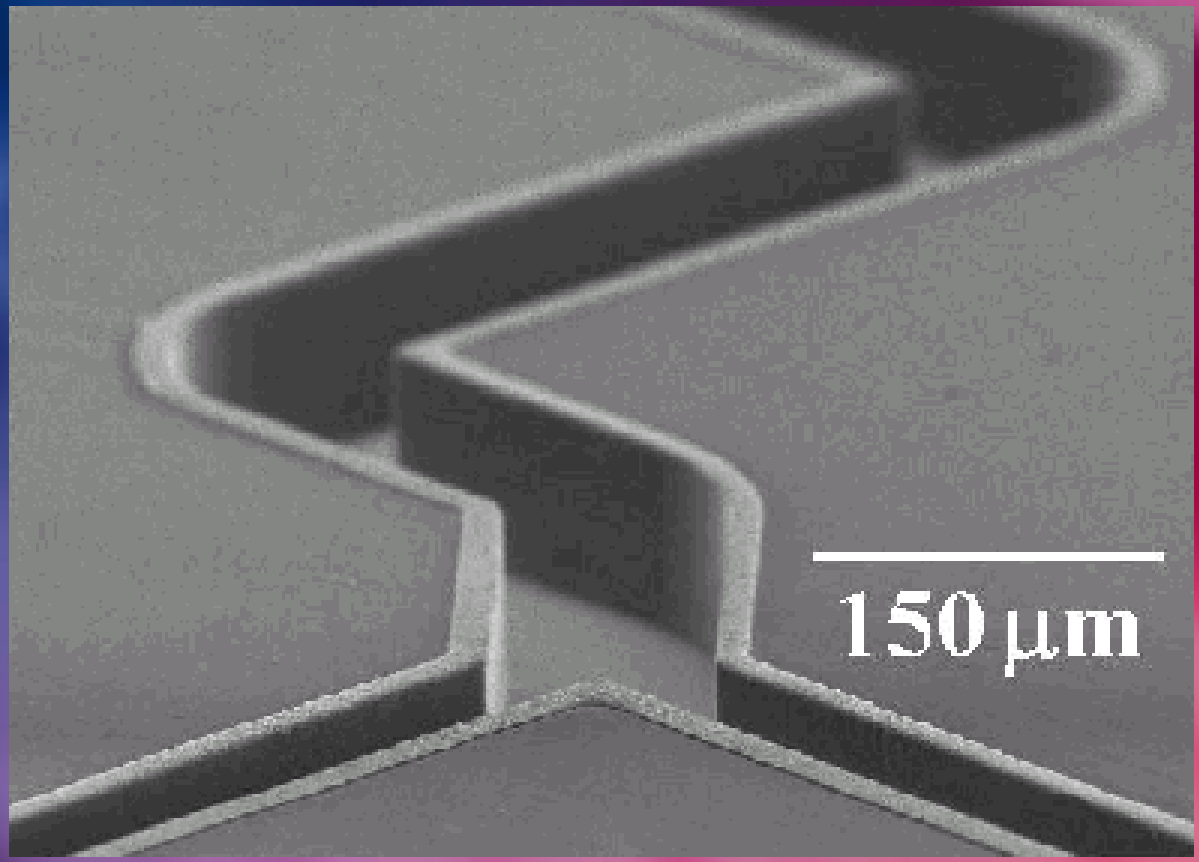
Microfluidic Transport Channel



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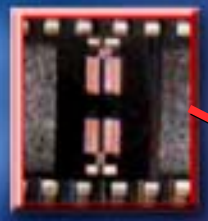
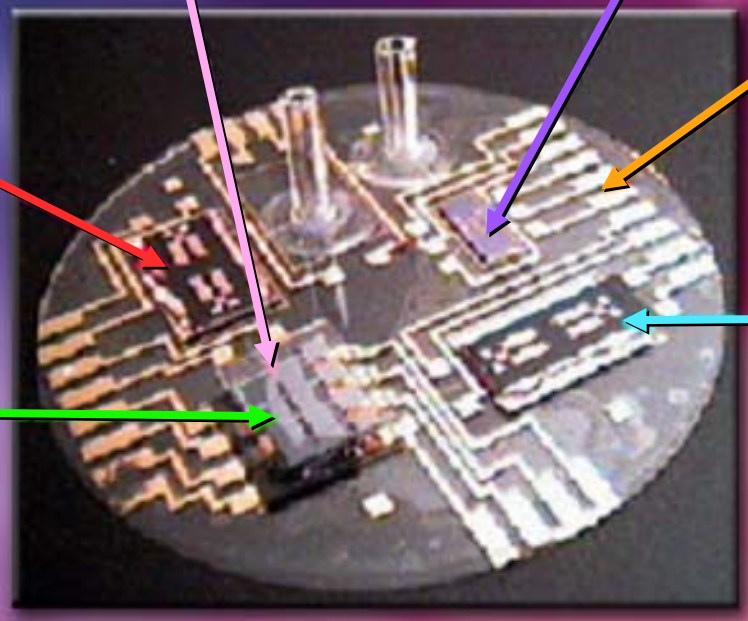
Laboratory-on-a-Chip

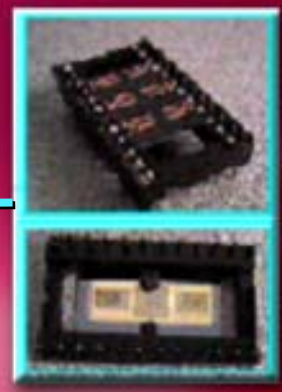
Bio-Separator

Flow Sensor

Control Circuits


Micro-Valve




Micro-Pump

Reagents

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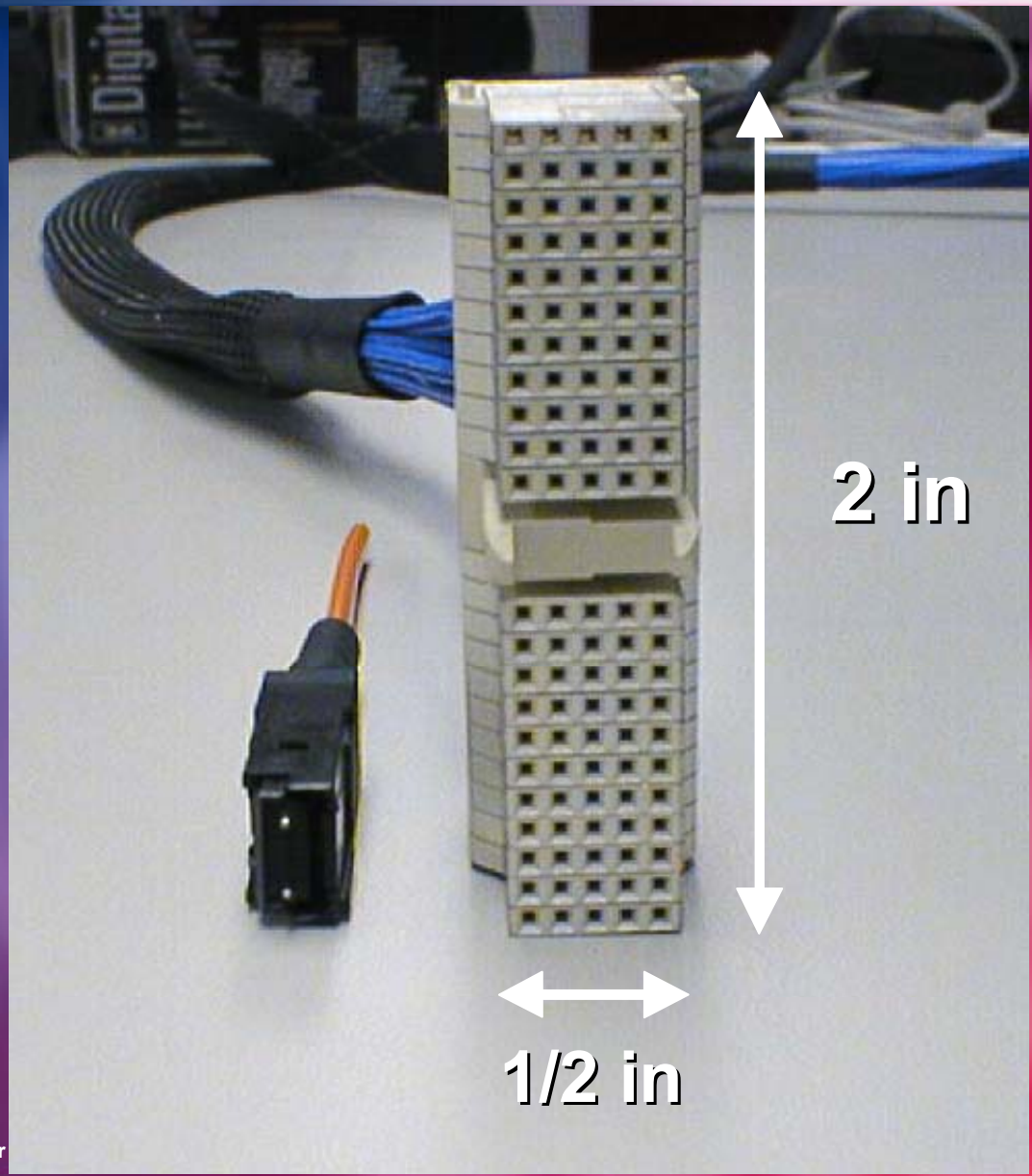
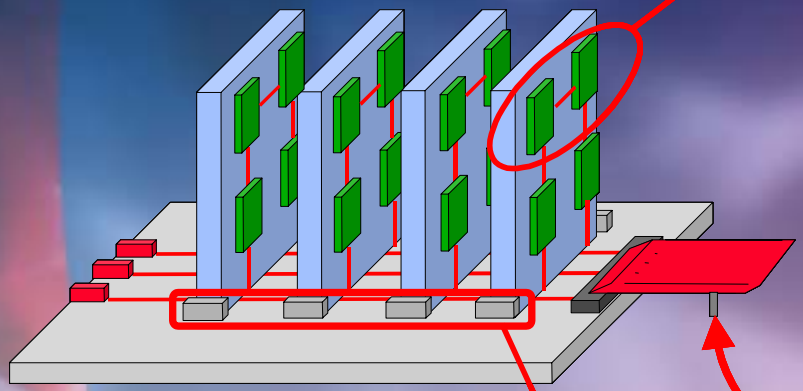
Fiberoptic vs. Electrical Box-to-Box Interconnects



Distribution Statement A. Approved for

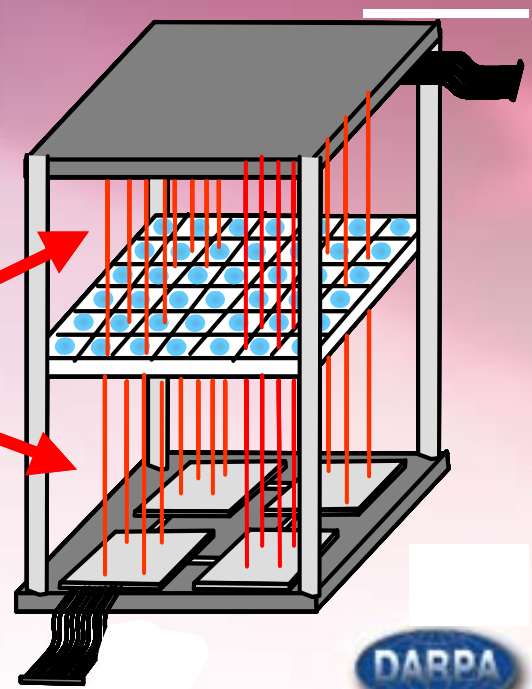
Board-Level Optical Waveguides



Backplane Optical Waveguides

Box-to-Box Fiberoptics

Board-to-Board Free Space Optical Links



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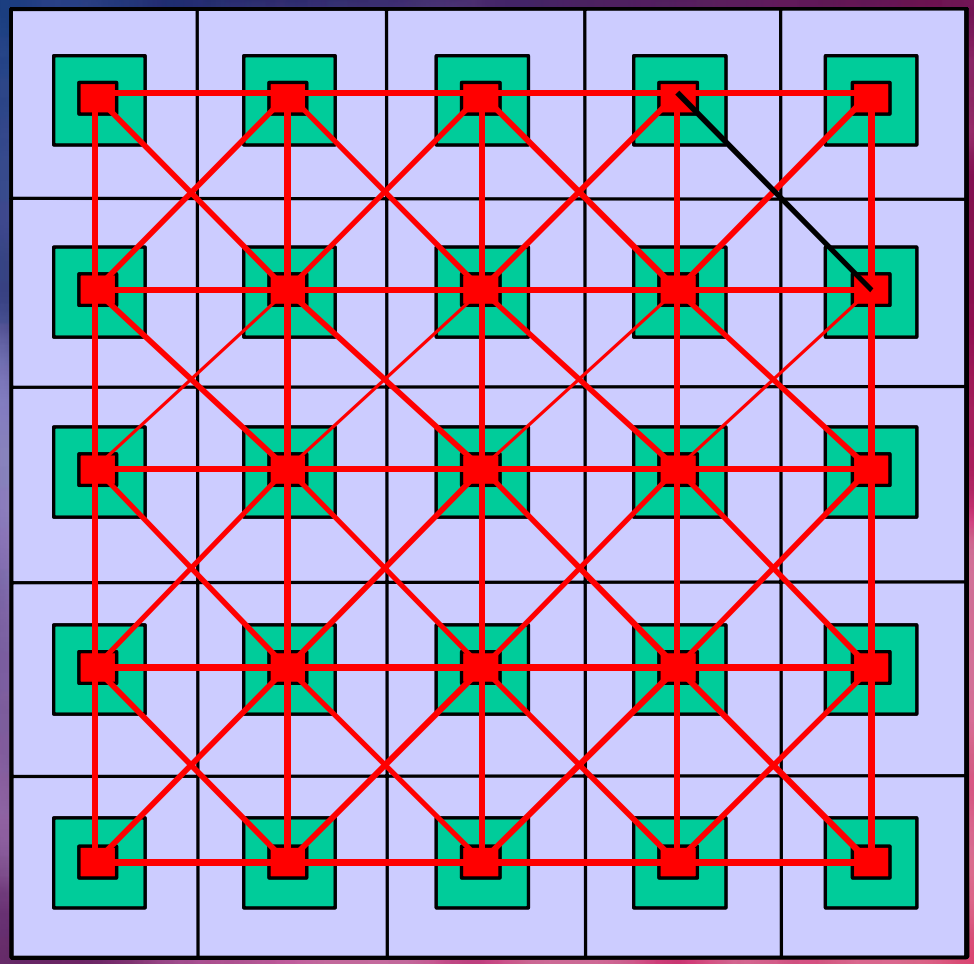
Network-on-a-Chip Topology



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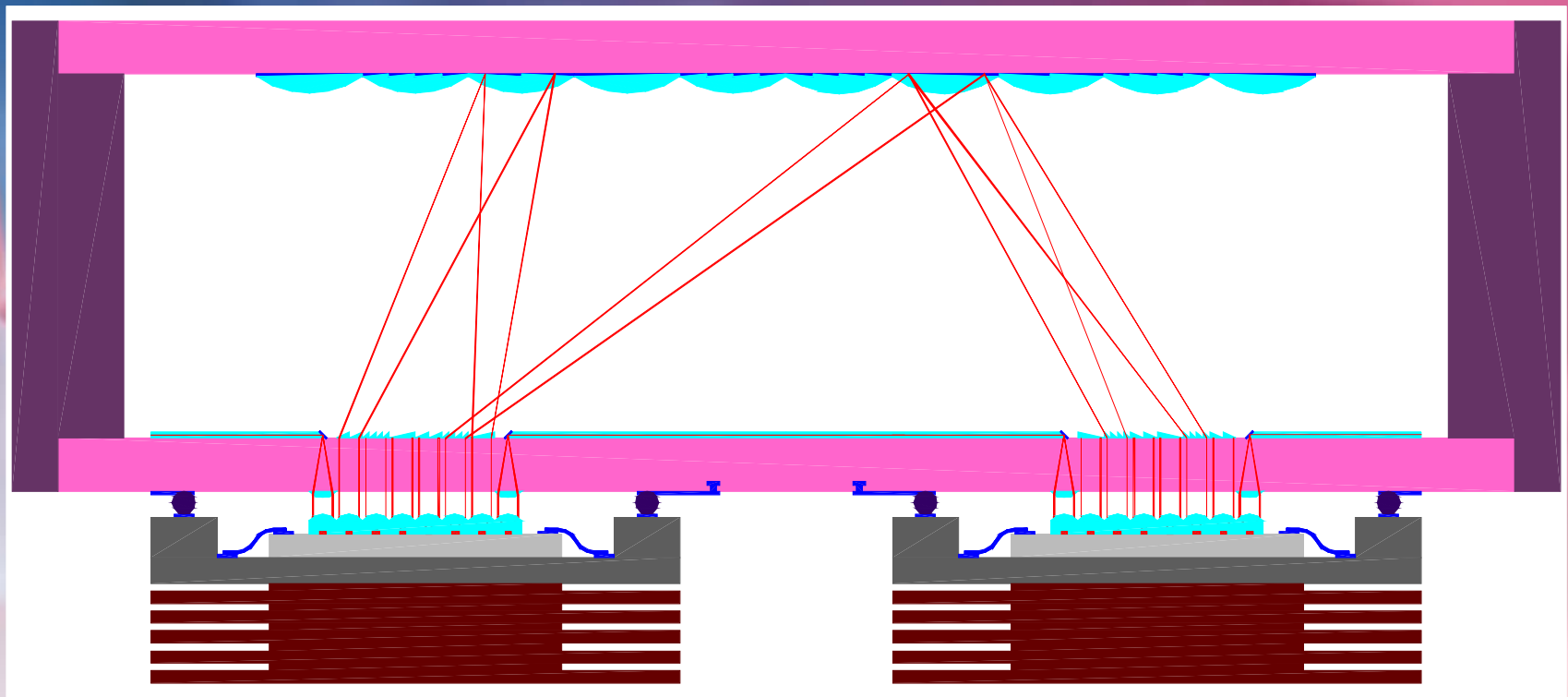
Photonics Based On-Chip Optical Interconnects



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Uncooled IR Images

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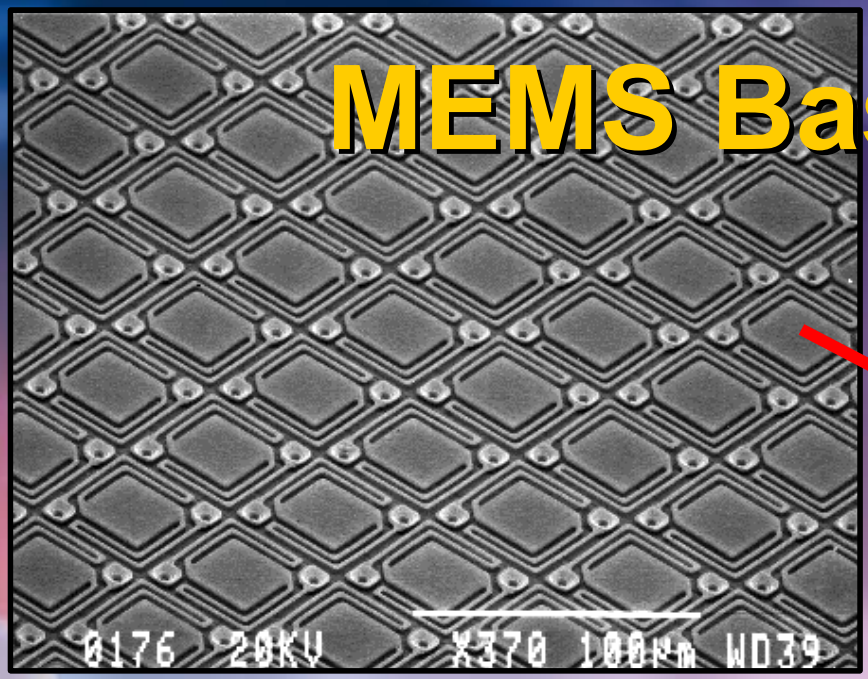
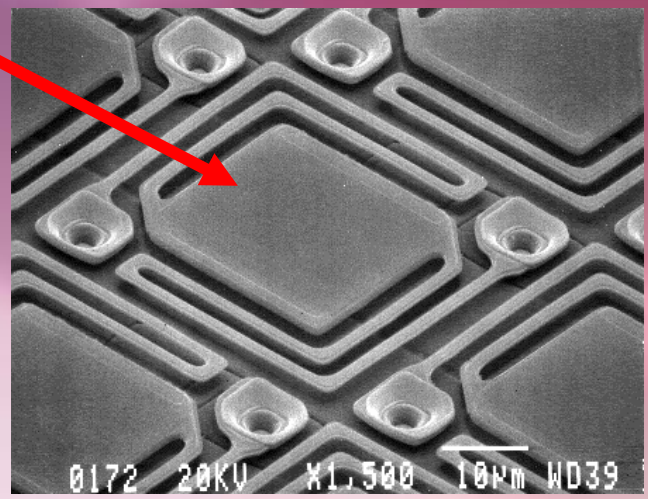
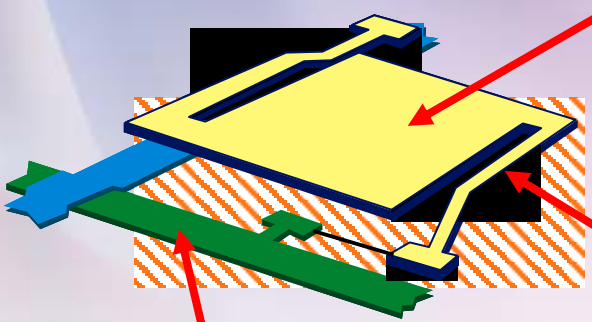
MEMS Based IR Detector







IR Absorber

Thermal Isolation Microstructure

Integrated Electronic Readout

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Gimbal Type Laser Beam Steering

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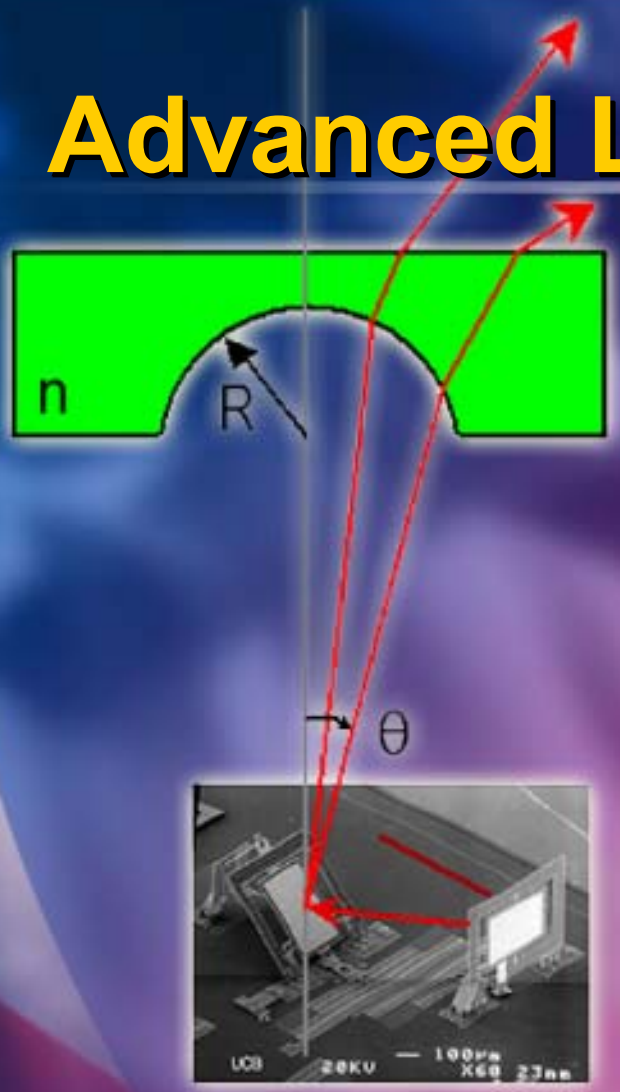
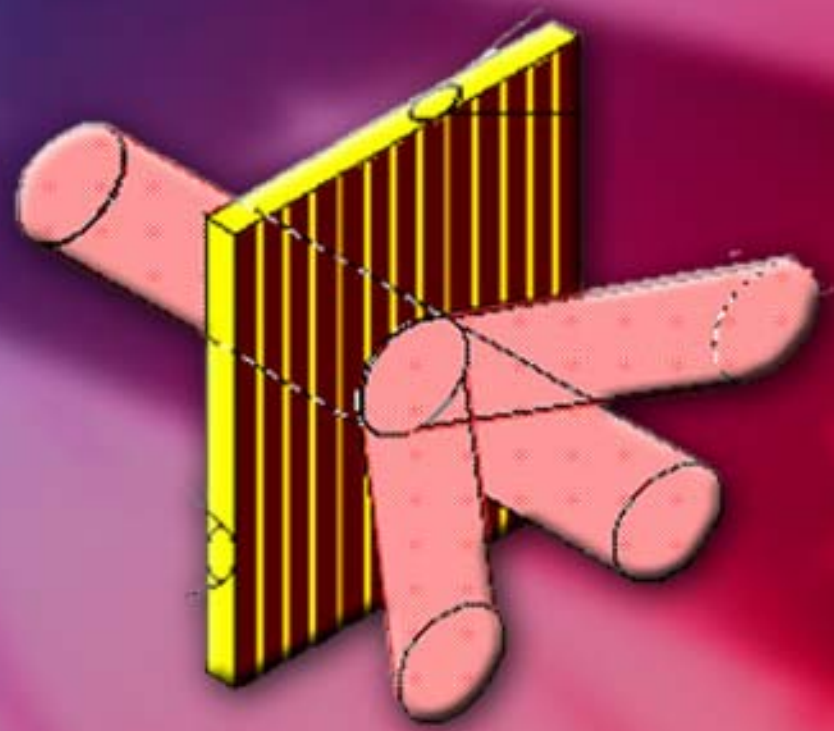
Advanced Laser Beam Steering



MEMS Beam Steering



Liquid Crystal
Beam Steering

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High-Bandwidth CONUS Network

WAN

Feeder Network

Distribution Networks

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