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Scatterings **Lighting the Way With Silicon**

“A team at the University of California, Los Angeles (UCLA), has generated light on a silicon chip using Raman effect, a development that could pave the way for faster, smaller and cheaper optoelectronic devices.”

“What got me interested in the field was the fact that, while silicon is the bread and butter of

electronics, [it] is not used for photonics, said Jalali.”

“We took advantage of the atomic vibrations of silicon, Jalali said Raman is also used in fiber, but typically you need several kilometers to make a useful device. No one had attempted applying the Raman idea [to silicon] because the typical dimensions on a chip are millimeters, and you cannot make a kilometer-long device on a chip.”

“Because silicon is a crystal, it has a well-ordered structure, which allows it produce a Raman effect that is 1000 times stronger than the glass in optical fiber, Jalali said.”

“A good portion of the Internet involves optical networks, and they require optical devices to process light. Right now these are done via bulky systems which cost a lot of money and use a lot of power,” Jalali said. “If you could build processors on a chip...you would use much less power and make them really, really cheap.”