

NUTZ



BY R. DELUNA

Team looking to slow light speed

BY STUART HUTSON
The Battalion

A Texas A&M physics research team is experimenting with a new way to slow down the speed of light which could be applied towards the production of faster computers, holographic medical X-rays and even "light sabers."

The experiment, which involves the use of a gas consisting of the element rubidium to slow down the light emitted by a laser, was conducted by Michael Kash, an associate professor of physics at Lake Forest College in Illinois; Vladimir Sautenkov, a postdoctoral research associate at A&M; and George Welch, an associate professor of physics.

Welch said a light wave may enter the gas, be delayed for a few hundred microseconds and leave the other end at about 95 percent of its original intensity.

The extra time allotted by the delay allows the team to scientifically manipulate the light beam by means of other lasers.

"The delay allows us to alter the frequency [color] of the light entering the rubidium," Welch said. "Right now we can only change the color slightly ... but the potential for the telecommunications industry which uses fiber optics is already tremendous."

Welch said manipulation of frequency may someday allow doctors to take three-dimensional

holographic X-rays of patients and make laser measurement and computing devices far more accurate.

"We are seeing that in the future computers will become more optically based," Welch said, "so this manipulation of light will be beneficial."

Kash said though the idea was "far fetched," he proposed a Starstruck application for the experiment's findings.

"If we can ever slow down light enough, one day we may be able to make light sabers like the ones in Star Wars," he said.

Any material can slow the reproduction of light, but materials that slow light down the most also tend to absorb a lot of its energy. This means light cannot pass through thick materials.

The team's experiment heats the rubidium into a state of matter called "phaseonium."

While in this state, the rubidium will slow light but not absorb much energy, thus allowing light to pass through matter, but with a much slower velocity.

A similar experiment was conducted by a team of Harvard and Stanford physicists who used a material consisting of sodium cooled to almost absolute zero (459.6 degrees below Fahrenheit), called Bose-Einstein condensate, to slow light.

The advantage of A&M's experiment is the rubidium is heated to 190 degrees Fahrenheit. This high temperature is much less costly and much easier to sustain than the supercooled temperature required by the condensate.

"If we can ever slow down light enough, some day we may be able to make light sabers like the ones in Star Wars."

— Michael Kash
Research team member

OUTREACH

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"We connect the dots," she said. "We plug both the students and parents into opportunities like volunteerism and preparing for college."

Bernadina Streeter, director of the University Outreach Center in Houston, said 80 percent of UO students enroll in colleges and universities of their choice.

"We act as a bridge from middle

school to high school, and from high school to college," Streeter said.

Streeter said although the students are strong academically, many of them face additional challenges, such as being first-generation college students or financial problems because they do not live with their parents.

Marco Portales, professor of English at A&M, said the University Outreach program is like a lookout post.

"They're out there scouting the horizon to see which students are like-

ly to be successful at A&M," he said.

He said once University Outreach students have entered school, they need the support which allows them to be successful.

"If you're going to invite them to come in the door, you must have the appropriate resources once they get in the house.

"We have to have everyone on base. Everything comes down to having sufficient resources — both for the programs and for the students," he said.

Bush signs abortion bill

New law will require parents of minors be notified of procedure

DALLAS (AP) — Gov. George W. Bush on Monday signed a bill requiring that parents be notified whenever their unmarried, minor daughters seek abortions.

"This law both respects families and protects life," Bush said during a public signing ceremony at a Dallas hotel. He was surrounded by a handful of lawmakers, including the bill's author Sen. Florence Shapiro, R-Plano, and Rep. Dianne White Delisi, R-Temple.

"Thank you all for your principle and for your persistence. Thank you for showing how a debate on abortion should be conducted."

The law is effective Sept. 1.

The bill passed the Senate early in the session, then was amended in the House after prolonged negotiations, heated debate and attempts by opponents to derail it. Senators finally agreed to the House amendments in the final days of the session.

That OK came only after several senators voiced concern about what would happen to girls who fear having their parents told. The requirement does allow abortion providers to skip the notification requirement if a judge decides the girl is mature enough to make the decision herself.

Information about the court bypass process will be made available at the abortion provider's office.

Shapiro said the new law is important for girls in crisis. She said parents can rest easy now for being included in the abortion decision with their own daughters.

"This is one of the most significant things that we can do to bring parents back into the loop and to have parents involved in their minor child's decision," she said.

Thirty-seven other states have parental notification, Shapiro said.

Anti-abortion activists praised the signing as a move in the right direction.

Darla St. Martin, of the Washington, D.C.-based National Right to Life, said abortion opponents and lawmakers in Texas have been pushing for notification laws for minors for 25 years.

"It also helps establish a general pro-life attitude on the part of people in the state," St. Martin said.

Bush, who is on the verge of beginning travels around the U.S. to push a probable presidential bid, has been criticized by some in the anti-abortion movement as being soft on abortion and not pro-life enough.

"I believe that government can encourage ... for minor daughters to interface with their parents."

— GOV. GEORGE W. BUSH



Opponents of notification argue the law targets the state's most vulnerable females and that pregnant minors — fearful of having to tell their parents of their decision to abort their pregnancy — will seek dangerous back-alley procedures.

Bush has said he signed the bill to reduce the overall number of abortions in the state and "involve parents in this major decision of their minor daughters."

"I believe that government can encourage — like they do in all other kinds of medical decisions — for minor daughters to interface with their parents," the governor said Monday.

Canadians protest death sentence

AUSTIN (AP) — A "psychiatric delegation" from Canada and the United States pleaded Monday with the Texas Board of Pardons and Paroles and Gov. George W. Bush's general counsel to hold a hearing on the medical testimony of death row inmate Joseph Stanley Faulder.

Faulder, 61, is scheduled to die by lethal injection June 17 for the fatal beating and stabbing of Inez

Phillips, 75, during a 1975 robbery.

If the execution is carried out, Faulder will be the first Canadian executed in the U.S. since 1952.

The group's chief complaint is that the jury was not informed that Faulder sustained severe head injuries when he was a child, resulting in brain damages that may still effect Faulder's personality.

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