

Space shuttle brings experiment back down to earth, to Clemson

By The Associated Press

CLEMSON — Physics Professor Peter McNulty of Clemson University will finally get a look at his radiation experiment nearly six years after it was sent into space aboard the Long Duration Exposure Facility satellite.

McNulty's experiment and others on the satellite, a 10.5-ton laboratory the size of a bus, landed with the shuttle Columbia on Saturday.

"We've been told to expect damage to our experiment," including a coating of ash, the head of the physics department said. The satellite remained in orbit in "a fairly hostile environment" longer than expected, McNulty said.

McNulty said he expects to bring the experiment to Clemson about the first of March. "Our experiment is one of a number looking at ionizing radiation and its effect on materials."

Ionizing radiation rips electrons loose and breaks bonds, causing chemical changes in materials, he said. An example would be radiation in a nuclear plant. Non-ionizing radiation, such as microwaves, heats material but does not cause chemical changes.

"The idea (behind the experiment) is we would develop techniques to measure the damage from space radiation," he said. "One of our long-term goals is to

come up with ways to characterize complex radiation environments."

Eventually, this research could help protect astronauts on long space journeys, he said. The astronauts and materials would be subject to solar flares, cosmic rays and other radiation.

In addition, less expensive ways of protecting robots and other materials in areas bombarded by radiation, such as nuclear facilities, could be developed, he said.

McNulty's research focuses on microscopic materials, such as a microelectronic circuit element or a biological cell. The experiment on the satellite includes plastic or glass microspheres ranging in size from 1 micron to 25 microns. Approximately 400,000 microns equals an inch.

McNulty's research deals with cosmic rays, which are bursts of radiation, and the South Atlantic Anomaly, a radiation belt that comes close to the earth's atmosphere.

A cosmic ray penetrating material "is like sticking a needle right through something," he said. This radiation burst can cause shorts or upset a microelectronic circuit memory. If the wrong microscopic memory were hit, a rocket could be fired to change the orbit of a satellite.



Intense

Renee Meyer/The Gamecock

Nursing freshman Caroline Cadek studies by the reflecting pool outside Thomas Cooper library.

Phone problems Continued from page 1

when students using the campus phone system can hear other conversations on the phone. Stover said they were not sure exactly what the problem was, and it would be hard to determine without a physical examination of the wiring in the particular building or telephone switch.

Stover said they were not aware of the problem until the December meeting with Student Government.

They had corrected cross-talk once before and were surprised to see the problem recur.

Southern Bell thinks the problem is within the USC phone lines since most instances of cross-talk involve students hearing other students' conversations, Stover said.

The problem is still occurring because students have not been reporting the cross-talk problems, Stover said. If the problem occurs only occasionally, students might

not call about it; whereas if it happens frequently, they would make a point to call, he said.

Students can help isolate the problem by calling Mark Bradley at 777-7474 to report the specifics of cross-talk problems, such as the time, where they are calling from and who they are calling. After regular business hours, students can call 777-8153 and leave a message.

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THEME

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We appreciate your business and Thank You again.

Have a great semester

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