

## Monday launch for space observatory

# Invisible X-ray universe will be seen

WASHINGTON — The space agency plans to launch an orbiting observatory Monday to give astronomers their best view yet of puzzling celestial objects — such as white dwarfs, neutron stars and maybe even black holes — which emit X-rays.

The invisible universe, as viewed by X-ray detectors, is a bizarre and violent place and program scientist Albert G. Opp said the spacecraft will use an automated X-ray tele-

scope to enable astronomers to "see exactly where the action is taking place."

"You'll be able to see in X-rays the motions of gases and the presence of the matter that's creating the X-rays," Opp said in an interview Wednesday. "Since you can't see these in visible light, you can only speculate as to what's creating the X-rays."

The \$87 million satellite, called HEAO 2 because it is the second of three High Energy Astronomical

Observatories, will radio back data scientists will reconstruct into pictures showing the size, structure and detail of objects in the far reaches of the universe.

HEAO 2 is to be launched from Cape Canaveral, Fla., into an orbit ranging from 280 to 335 miles high. That vantage point will place the satellite well above the Earth's atmosphere which keeps X-rays from reaching ground observatories.

The first HEAO was launched 15 months ago on a sky-mapping mis-

sion. It has spotted an estimated 1,500 celestial sources of X-rays — five times the number previously known.

HEAO 2's job is to zero in on particularly interesting X-ray sources. Among its targets will be compact celestial objects ranging from stars known as white dwarfs to theoretical black holes.

A white dwarf is what is left over when a star the size of our sun runs out of nuclear fuel and collapses cat-

astrophically into an object no bigger than Earth. They are so dense that a spoonful of matter would weigh a ton.

Medium-sized stars crash down to neutron-star density — a billion tons per cubic inch.

Heavyweight stars are believed to shrink even more, to material so densely packed that the resulting immense gravity prevents even light waves from escaping. These are what scientists call black holes.



The Athletic Attic is Coming!

## Germans have learned their lesson, official says

COLOGNE, West Germany — Chancellor Helmut Schmidt, speaking on the 40th anniversary of the first Nazi pogrom, said Thursday he believes the Germans have learned the lesson of their history and asked the Jews for forgiveness.

"It is not for us to call on the Jews of the world for forgiveness," Schmidt told an assembly in Cologne's Great Synagogue. "But we may ask for forgiveness."

Schmidt spoke at a memorial service on the 40th anniversary of the Crystal Night pogrom — the

first pogrom against Germany's Jews by Adolf Hitler's Nazi regime in 1938. It became known as Crystal Night because of the piles of broken glass littering Germany's main business streets after Nazi thugs smashed the windows of about 7,500 Jewish-owned shops.

During Crystal Night, the Nazis killed 91 Jews, arrested another 30,000 Jews, most of whom were sent to concentration camps, and destroyed 267 synagogues.

That pogrom was the first step toward execution of the Nazi plan to eliminate European Jewry. Before

the allies defeated Germany in 1945, the Nazis killed about 6 million Jews.

"The truth is that many Germans knew of the crimes and disapproved them, but that many others knew nothing or almost nothing about them," Schmidt said. "The truth is that nevertheless all of this took place before the eyes of a large number of German fellow citizens and that another large number had direct knowledge of these events."

"The truth is that a majority of the people remained timidly silent, and that the churches also remained timidly silent although synagogue and church serve the same God and are rooted in the spirit of the same testament."

Schmidt said the Nazis were able to seize power and carry out their criminal scheme with the acquiescence of most Germans because preceding generations had failed to prepare the ground for a democratic system guaranteeing the freedom and dignity of the individual.

The Nazi crime began with violence against books, the shouting down of anyone with another opinion, contempt for fellow men and the rejection of the democratic system, Schmidt said.

"Murder was the logical consequence," the chancellor declared.

### Peace Lutheran Church

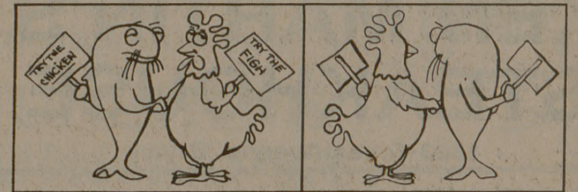


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The provision in the law that you can pay resident tuition if you work half-time in a position relating to your degree program is an exception to the residency requirements; it doesn't make you a Texas resident. Once you quit your departmental job, the exception ends and therefore your lower tuition ends.

Editor's note: This column is provided by the students' legal advisers as a service to Battalion readers. Answers are general and should not replace the personal advice of an attorney. Questions for this column can be addressed to the students' legal advisers in Room 306, YMCA Building.

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### Spanish booty returned to discoverer

TALLAHASSEE, Fla. — State archives officials Thursday were ready to return \$2.3 million in Spanish treasure to the company that found it.

Archives officials finished sealing hundreds of silver coins and artifacts Wednesday to meet the order issued 10 days ago by the Fifth U.S. Circuit Court of Appeals in New Orleans, said Robert J. Vossler, an attorney representing the secretary of state's office.

The treasure was hauled from the wreck of the Spanish galleon Nuestra de Senora Atocha by Treasure Salvors, Inc., a Key West-based firm that discovered the shipwreck 45 miles off the Marquesas Keys after years of searching.

The Nuestra de Senora Atocha went down 356 years ago, in 1622.

The state laid claim to 25 percent of the treasure because of a contract signed by the treasure company's president, Mel Fisher.

But Fisher has testified in court that he signed the contract because the state threatened to arrest him if he didn't.

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