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April 13, 1990

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RELEASE: 90-54

NASA EXPERIMENT TO BRIGHTEN EASTER SKY

Residents of central Canada and the North Central United States might experience a more colorful Easter than they expected. If all goes well, the sky in those areas will brighten with a rainbow of colors from an experiment being conducted NASA.

The experiment is scheduled for 1:36 a.m. EDT, Easter Sunday. At that time, if conditions are right for the test, a canister of barium will be discharged into space from an orbiting satellite 315 nautical miles above the Earth.

The satellite is Pegsat, launched on a Pegasus rocket on April 5, 1990. Using a unique launching system, the Pegasus was carried aloft under the wing of a NASA B-52 from Edwards Air Force Base, Calif., and released at 43,000 feet. The Pegasus launch vehicle then placed the satellite into a 94.1 degree inclined orbit.

Based on the achieved orbit and the requirements for proper lighting conditions, the chemical release window is approximately 2 weeks long starting the night of April 14, 1990.

When the barium is released, it will form a yellowish cloud. The cloud will change to a green and white color, which will fade away while a purplish vertical streak develops and grows in length.

The Pegsat satellite, designed, built and tested at NASA's Goddard Space Flight Center, Greenbelt, Md., carries two canisters of barium. The second canister will be discharged at a later time.

- more -

Purpose of the experiment is to study the complex interactions of the fast-moving cloud of chemicals with the Earth's magnetic field, electric field and the space environment at the release altitude, according to project scientist Dr.

Robert A. Hoffman, of the Goddard Space Flight Center. He said the primary active chemical released is vaporized barium, which, when struck by sunlight, becomes electrically charged and emits its own characteristic light.

The releases will occur in a region over northern Canada between Churchill and Yellowknife. To observe them, scientists from international laboratories will establish optical observing sites at the Churchill Research Range and at Lynn Lake in Manitoba, Fort Smith in the Northwest Territories, and at Stony Rapids, Saskatchewan. Other observation points have been established in the United States, located in Massachusetts near Boston, in West Texas, New Mexico, California and Washington, as well as Puerto Rico.

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DATE & TIME: MONDAY, APRIL 16, 1990. 2:45 P.M.

ORDERED BY: Edward Campion
NASA Headquarters/LMD
400 Maryland Avenue, SW
Washington, DC 20546 PHONE: 202/453-8400

PROJECT TITLE: Release No: 90-54

PRINT ORDER: 2241

PRINTING: Camera Ready, lst pg on NASA logo, other pages plain

ENCLOSE & MAIL: Release of 2 pages

MAIL DATE: TUESDAY, APRIL 17, 1990

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