Professional Reading

"Space Notes" excerpts professional articles of interest to Space professionals. The section will attempt to present a broad spectrum of newsworthy items, with references to the full article for those who wish to read further. Suggestions and submissions for this section are solicited, and should be forwarded to the Managing Editor at richard.burks@smdc-cs.army.mil.

Creation of Black Hole Detected Today

By Robert Roy Britt, Senior Science Writer
May 9, 2005

Astronomers photographed a cosmic event this morning which they believe is the birth of a black hole, SPACE.com has learned.

A faint visible-light flash moments after a high-energy gamma-ray burst likely heralds the merger of two dense neutron stars to create a relatively low-mass black hole, said Neil Gehrels of NASA's Goddard Space Flight Center. It is the first time an optical counterpart to a very short-duration gamma-ray burst has ever been detected.

Gamma rays are the most energetic form of radiation on the electromagnetic spectrum, which also includes X-rays, light and radio waves.

The merger occurred 2.2 billion light-years away, so it actually took place 2.2 billion years ago and the light just reached Earth this morning.

Delta 2 Rocket to Launch Earth Weather Probe

By Justin Ray
March 9, 2005

Taking the pulse of our planet's health and detecting clues needed for weather forecasts have been the chief tasks for Earth-orbiting weather observatories over the past four decades, and that legacy will be extended this week when the latest spacecraft blasts off from California on Wednesday.

The NOAA-N satellite is slated for liftoff at 1022 GMT (6:22 a.m. EDT; 3:22 a.m. PDT) on May 11 from Space Launch Complex-2 West at Vandenberg Air Force Base atop a Boeing-built Delta 2 rocket.

"When it launches, NOAA-N will not only be our eyes above the Earth, but our eyes into the future," said Gregory Withee, assistant administrator for the NOAA Satellite and Information Service.

"Because it will strengthen our understanding about what the environment around the world is doing, not just here in the U.S., NOAA-N will bring us one step closer to truly global coverage of Earth's complex processes," added NOAA Administrator Conrad Lautenbacher, Jr.

The 3,130-pound spacecraft -- to be renamed NOAA-18 once safely in orbit -- is the fourth in the current series of five Polar Operational Environmental Satellites with improved imaging and atmospheric sounding capabilities that will operate to the end of this decade. The program has a heritage that dates back to the dawn of the Space program.

After entering service later this summer, the Lockheed Martin-made satellite will replace an aging sister-craft, NOAA-16, launched in September 2000, ensuring an uninterrupted flow of data such as imagery, temperature measurements and atmospheric profiles that are the building blocks of weather forecasts.

India Launch of Remote Sensing Satellite a Success

Associated Press May 5, 2005

BANGALORE, India (AP) -- India on Thursday launched a satellite equipped with two cameras to provide images of natural disasters, map land resources and track environmental changes in South Asia, the country's Space agency said.

"The satellite, Cartosat-1, was launched successfully," S. K. Karimulla, an official at the launch pad

on Sriharikota island off India's southeastern coast, told The Associated Press.

The remote sensing satellite will track the impact of natural disasters, deforestation and forest fires, map wasteland and farmland, and help with crop production estimates, an ISRO statement said.

The Indian Space Research Organization now operates seven remote sensing satellites including Cartosat-1. The rocket also carried a light satellite called Hamsat, exclusively for amateur radio operators in South Asia.

The new satellite, weighing 1,560 kilograms (3,432 pounds), was put on a pole-to-pole orbit at 10:32 a.m. (0502 GMT) by the Polar Satellite Launch Vehicle.

Cartosat-1 can capture details spanning 2.5 meters (8.20 feet) on the Earth and will be followed in 2006 by the launch of Cartosat-2 with a spatial resolution of about 1 meter (3.28 feet).

Northrop Grumman Demos KEI Missile Defense Battle Management Capabilities

HUNTSVILLE, Ala. (SPX) May 06, 2005 — Last month, Northrop Grumman successfully demonstrated two key battle management capabilities for the new Kinetic Energy Interceptors (KEI) missile-defense program, ahead of schedule.

KEI is a mobile, land-based missile-defense system that, when deployed, will be able to destroy a hostile threat during its boost and ascent phase of flight. The team managing the KEI battle management portion of the program is in Huntsville, Ala.

The first test demonstrated the ability of the KEI command and control, battle management and communications (C2BMC) system's permanent U.S. site to process data from classified sensors, downgrade the classification of that data, and distribute it to a KEI battery in the field.

This permanent C2BMC system will be housed in the Joint National Integration Center at Schriever Air Force Base, Colo. and will be known as the Continental U.S. KEI (CKEI) - providing a vital link for key national sensor data to the field - when the overall KEI system becomes operational.

During this test, the CKEI demonstrated the ability to process live data from satellite sources and feed that data into the mobile C2BMC battery in the field to substantially improve the threat-trajectory prediction and enhance the system's ability to intercept a hostile threat.

U.S. Air-Launches Ballistic Missile As Target In Missile Defense Test

Washington (AFP) Apr 08, 2005 — The United States launched a medium range target missile from an airborne C-17 transport plane over the Pacific last Friday as part of an effort to make missile defense tests more realistic, the Pentagon said.

The Missile Defense Agency said the air-launched ballistic missile was developed to replicate trajectories that hostile ballistic missiles could take in a real attack on the United States.

It was dropped by parachute from the rear of a C-17 aircraft about 800 miles northwest of the Pacific Missile Range on Kauai, Hawaii, the agency said.

"The missile's rocket motor then ignited, sending it on a planned trajectory over the Pacific Ocean," the agency said.

Missile defense radars and other sensors tracked the missile and relayed data to a command center at Colorado Springs, Colorado, it said.

Rick Lehner, a Missile Defense Agency spokesman, said ballistic missiles have been air-launched before but this was the first time the agency had launched one from the air as a target.

Critics have pointed to the absence of realistic operational testing has been a major flaw in the development of a system of ground-based interceptors to defend against long-range missiles.

They charge that the Pentagon has rushed to field the system without testing it first under conditions that approximate a real attack.

Rick Lehner, a Missile Defense Agency spokesman, said the new target missile could be used in flight tests of the ground-based missile defense system as early as the end of this year or next.

"What we can do is launch (the test missile) west of the Aleutians in international airspace and it would head in a trajectory that would make it more like a missile coming from North Korea for example," he said.

That would allow the use of a powerful Cobra Dane targeting radar in the Aleutian islands in a flight test for the first time, he said.

The radar was too remote to be of use in previous tests in which target missiles were fired over the Pacific from California and intercepted with missiles fired from the Marshall Islands.