

## NEWS IN BRIEF

## ■ RAPID LAUNCH

NASA's Fast Auroral Snapshot Explorer was launched into a 3,150 x 4,180km, 83°, orbit by an Orbital Sciences Pegasus XL booster on 21 August. It was the third successful flight (out of five attempts) of the air-launched XL booster. The original Pegasus booster had eight flights, with six fully successful missions.

## ■ LAUNCH CONTRACT

Arianespace has won its fifteenth contract this year, to launch the MMS-built ST-1 communications satellite for Singapore Telecom and Taiwan's Chunghwa Telecom, in 1998. Arianespace has 41 satellites in its outstanding orderbook and will launch the V91/Ariane 42P on 10 September with the Loral-built Echostar 2 satellite.

## ■ SPACE LINKS

Loral Space and Communications will introduce a space-based navigation and positioning service in 1998. The Loral Integrated Navigation and Communications Satellite Services (LINCSS) will use the company's 48-satellite Globalstar mobile telecommunications service and the global-positioning system (GPS) satellite network to provide an accuracy of a few millimetres, says the company, "a dramatic improvement over the 20m that may ultimately be available" from the GPS. The LINCSS will be available with an open architecture by all GPS hardware providers.

## ■ SPACE NINE

A team of nine astronauts from Canada, France, Germany, Italy, Japan, Spain and Sweden have joined NASA's 1996 candidate group for training at Houston, Texas, primarily for space-station missions. Three have already been flown on the Space Shuttle as payload specialists.

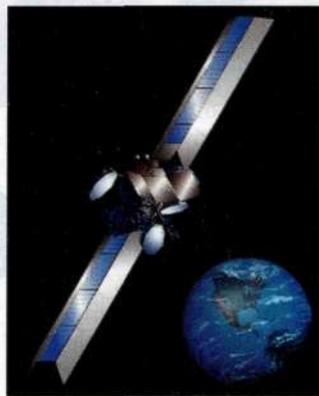
# Space Systems Loral plans five H2 launches for Japan

TIM FURNISS/LONDON

SPACE SYSTEMS/Loral is negotiating a \$370 million deal with Japan's Rocket Systems for five flights between 2000 and 2005 on the new, uprated, H2A satellite launcher. The Japanese company already has a \$910 million deal under negotiation with Hughes Space and Communications for ten launches, starting in 2001.

The boost for the uprated version of Japan's H2, which will have its first flight in 2000, comes as satellite manufacturers and operators scramble to ensure that they have a continuous capacity in the event of delays to any launcher.

In a \$1 billion deal, Hughes and Loral have also booked launches on other untried vehicles. Hughes, which claims to be the world's leading communications-satellite supplier, has reserved 11 launches on the new McDonnell Douglas



The Hughes Space and Communications Galaxy 11 satellite will be the first Sea Launch payload

Delta 3 and ten lift-offs on the Boeing-led Sea Launch.

The Galaxy 11 satellite, Hughes' first HS-702 model, will be on the maiden Sea Launch in June 1998 (*Flight International*, 21-27 August), and the Galaxy 10 HS-601

will be on the first Delta 3 in the same year. Loral has also booked five Sea Launch flights between 1998 and 2001, in a deal worth about \$500 million.

The original \$2.3 billion H2 (which was Japan's first large, indigenously built, satellite launcher) had its first flight in 1994 and has since had three successful flights, but the cost is a prohibitive \$172 million per flight.

Japan plans to reduce production costs by 50% and to have the new rocket ready within four years. The first version of the streamlined H2A will replicate the 2,000kg payload-to-geostationary-transfer-orbit capability of the original H2, but will be equipped with a new LE-7 first-stage engine. It will also be fitted with shorter and lighter Nissan solid-rocket boosters, as well as a new Mitsubishi LE-5B second-stage engine. □

## Hughes will build fifth Mexican satellite for 1998 launch

HUGHES SPACE and Communications continues its role as sole builder of Mexico's communications satellites by winning the contract to build the *Morelos 3*, which will be launched in 1998. The company built the *Morelos 1* and *2*, launched in 1995, and two *Solidaridad* craft placed in orbit in 1993 and 1994.

Like the *Solidaridad*, the *Morelos 3* will be an HS-601 model, but will be a high-power version, using gal-

lium-arsenide solar cells, providing 8kW of power. The *Morelos 3* will carry 24 C-band and Ku-band transponders. A launcher has not been selected.

■ Hughes has expressed confidence in China's launch vehicles despite the failure of a Long March 3 to place its \$128 million ChinaSat 7 into a correct orbit after launch on 18 August. The company has one more formal launch booking with China.

Chief executive Michael Armstrong says: "We believe that the Chinese can be a long-term provider of launch services." One of the Hughes satellites lost in a Chinese launch failure was the Optus B2 in December 1992.

The cause of the disintegration of the Long March 2E booster has never been announced. China Great Wall Industry has declared, however, that the Hughes HS-601 satellite "exploded". □

## Atlantis is rolled onto Kennedy pad for next Mir mission

THE US SPACE Shuttle *Atlantis* has been rolled out to Pad 39A at the Kennedy Space Center, Florida, for a second time, equipped with a new set of solid-rocket boosters. The Shuttle is scheduled to fly the delayed STS79 mission on 12 September (*Flight International*, 24-30 July).

The fourth Shuttle *Mir* Mission (SMM), the STS79, due to have flown in July, will deliver 1,475kg

of food, water, supplies and equipment to the Russian *Mir 1* space station, together with astronaut John Blaha, who will replace US colleague Shannon Lucid. She will return aboard the STS79.

Blaha will work with cosmonauts Valeri Korzun and Alexander Kaleri, the Soyuz TM24 crew. They will replace the resident TM23's Yuri Oufrienko and Yuri Usachev, who, with French astro-

naut Claudie Andre-Deshays, were due to land on 2 September.

The STS81/SMM 5, which will pick up Blaha and deliver a new US crewman Jerry Linenger, is scheduled for a 12 January, 1997 launch. NASA has announced that the STS84/SMM 6 mission, scheduled for May 1997, will now include Russian cosmonaut Yelena Kondakova, a veteran of a 169-day stay aboard the *Mir* in 1995. □