

2 June 2008

By: Gabriel Gache, Science News Editor



Discovery during liftoff
Associated Press

[Discovery Blasts into Space](#)

Docking with ISS expected today

The Discovery space shuttle launched into space on Saturday along with its cargo - consisting of the second section of the Japanese space laboratory Kibo and a toilet pump, among other things - and is expected to arrive and dock at the International Space Station today. The second section of the Kibo space laboratory measures about 11 meters in length, weighs some 14.5 metric tons, cost 2 billion US dollars to build and almost completely fills Discovery's shuttle bay. The launch took place smoothly, although there were some problems with the electronics backing up the swiveling engines. During liftoff, the exterior fuel tank lost about five pieces of thin insulating foam, but this occurred after the two crucial minutes following the launch, thus they shouldn't have caused any significant damage. This was the first fuel tank launched into space and it included the security changes imposed following the Columbia disaster in 2003. As soon as the space shuttle docks to the ISS, the astronauts will start a systematic check of Discovery's heat shield, to make sure that it was not damaged. Usually, this inspection takes place before the docking, but the Kibo laboratory is so large that the inspection boom of the space shuttle had to be disassembled to gain some more room. NASA had anticipated such event and flew Discovery's inspection boom to the ISS during mission STS-123 carried out by the space shuttle Endeavor, which delivered the first section of the Kibo laboratory and the maintenance robot Dextre. Mission STS-124 is planned to be carried over a period of 14 days, during which time the crew is expected to install the Kibo laboratory, replace a nitrogen tank and experiment with several means to clean the rotating joint of one of the solar arrays of the space station that malfunctioned in autumn last year. Discovery's crew consists of six American citizens and a Japanese astronaut, amongst which Gregory Chamitoff who will replace Garrett Reisman of Expedition 17. The only concern is now the faulty toilet of the space station which broke about two weeks ago, leaving the ISS crew with no other option than to use the one on the Soyuz-TMA-12 spacecraft. In the last week however, the crew was forced to return to the broken toilet and flush it manually, thus wasting a lot of time and water. Hopefully, the new toilet pump will work properly. Also riding on board Discovery is the 30 centimeter tall action figure of the Buzz Lightyear character starring in the 'Toy Story' movie in 1995, as part of NASA's 'toy in space' educational program for elementary students and their teachers.