

## Chinese Milestone As Shenzhou-9 Docks With Tiangong-1 Space Station

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*AsianScientist* (Jun. 18, 2012) - At 2:00 p.m. sharp (Beijing) on Monday a new chapter in world space history opened with China becoming the third nation in the world – the other two being the U.S. and Russia – to demonstrate its capability to dock a spacecraft with an orbiting space station.

After its [launch on Saturday evening](#), the Shenzhou-9 spacecraft with three crew members successfully docked with the Tiangong-1 orbiting space laboratory at an altitude of 340 kilometers over China on Monday. Shenzhou-9 was carried by the Long March 2F two-stage rocket.

The docking was completed in less than eight minutes and Tiangong-1 and Shenzhou-9 orbited the earth at 7.8 kilometers per second.

When the docking was completed the mood in the mission operations control room both at the Jiuquan launch center and the Beijing Aerospace Control and Command Center considerably lightened as scientists and engineers exchanged congratulatory handshakes.

The three crew members on board Shenzhou-9 are China's first woman astronaut 33-year-old Liu Yang, commander Jing Haipeng, 46, and flight engineer Liu Wang, 42.

Prior to the docking procedure, Shenzhou-9 completed an orbital change.

Tang Geshi, assistant chief designer of Beijing Aerospace Control and Command Center has been quoted as saying: "I removed one orbital change from the originally planned five. This is out of consideration for the safety of the taikonauts and operations of the spacecraft. It also means an improvement in the safety and reliability of the overall flight control procedure," he said.

Earlier, this month Tiangong-1 had been lowered into a docking orbit.

Speculation was rife that the taikonauts would execute a manual docking. But, on Monday it was an automatic procedure with the help of a radar, lasers, optical sensors, and computers. Together they aligned Shenzhou and Tiangong. Once this was done, the spacecraft's thrusters drove it into the space lab's docking ring. As this was happening, Liu Yang took a video of the entire process.

It is stated that of the three crew members, only two will board Tiangong-1 while one will stay on board Shenzhou-9 to cope with any possible emergency. A variety of experiments have been planned on board Tiangong-1.

In the next few days Shenzhou-9 will detach itself from Tiangong-1 and re-dock through a manual process. This critical operation will be commanded by flight engineer Liu Wang.

Regarding the number of days the taikonauts will remain in space, estimates vary between a week to a fortnight.

During the pre-launch media interaction last week, Tang said that he underwent more than 1,500 docking simulation exercises.

Shenzhou-10 is slated to dock with Tiangong-1 next year.

Monday's docking took place less than a month after an unmanned American private spacecraft, Dragon, of SpaceX successfully docked with the International Space Station (ISS). This is the first time that a spacecraft operated by a private organization carried supplies and docked with the ISS.

Prior to the Dragon, NASA's space shuttle flew astronauts to the 17-member International Space Station and docked with it. On the Russian side, the Soyuz spacecraft had the capability to dock with a space station.

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