



Missions of CNSA's Participation in ILWS

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1. Implemented Missions

Geospace Double Star Program (DSP)

- (1) The equatorial Satellite (TC-1) of Double Star was launched in December 2003. The polar satellite (TC-2) will be launched in July 2004.**
- (2) The Operational Status of TC-1 Satellite:**



1. Implemented Missions

- **Satellite operates normally. The perigee and inclination degree are the same as anticipated, the apogee is $13.4 R_E$, and the orbit period is 27.4 hours.**
- **Since the launch of TC-1 in Dec.2003, during the period from January to April 2004, the apogee of satellite operates in the dayside. The TC-1 moves through many important magnetospheric regions, such as the bow shock, magnetosheath, low latitude magnetopause boundary layer, radiation belt, ring current and plasmasphere.**



1. Implemented Missions

- **Payloads operate normally; they have provided and are continuously giving data of very good quality.**
- **Already very good conjunction in the dayside magnetosphere with Cluster, CME effects could be investigated.**
- **When TC-1 moves to the tail (Sept.2004), tail dynamics and substorms processes can be investigated in conjunction with Cluster measurements.**
- **The first results of data analysis have already shown great interest.**



2. Planning Missions

SWISE (Space Wind and Storms Exploration) is planned to Launch in 2010-2012.

(1) Project Overview

SWISE is composed by three satellites in different orbits (inclination degrees are all 65), so these three satellites can be launched by one rocket.

- **SWISE-1: Ionosphere and Thermosphere Mission (ITM)**
- ◆ **Operating in the regions of ionosphere and thermosphere (300-700 km);**
- ◆ **designed to observe the ionospheric storm and thermospheric storm processes responding to solar activities and magnetospheric disturbances**



2. Planning Missions

● SWISE-2

- ◆ Operating in the region of near earth magnetosphere (700km-7.5 RE).
- ◆ designed to observe the response of magnetospheric storms to solar activities and interplanetary disturbance.

● SWISE-3

- ◆ Operating in regions of the near Earth solar wind and magnetopause boundary layer (2 RE – 22RE)
- ◆ designed to observe the response of the near-earth solar wind to the solar activities and the influence of the dayside dynamics on magnetospheric storm, substorms and energetic particle events.



2. Planning Missions

(2) Preparing works of SWISE Program

Chinese government now is working on formulating the National Science and Technology Strategic Program (2005-2020). Chinese Academy of Science (CAS) has proposed and sent in to the government the “Space Science Strategic Program” and the “Space Exploration Strategic Program”. The SWISE has been considered and included in these two CAS’s programs.



2. Planning Missions

- **Center for Space Science and Application Research (CSSAR), CAS has set up a special project which is devoted to carry out the Phase A study of the SWISE. The SWISE Phase A Report will be completed in 2005.**
- **Joint research project concerning the study SWISE Phase A has been proposed and sent in to the National Science Foundation of China (NSFC).**
- **A few Chinese key institutions have recommended the SWISE to the CNSA, and suggested to put the SWISE into the “Space Science and Technology Execute Plan” for the coming five years (2006-2010).**



THANK YOU!
