

IAF SPACE EXPLORATION SYMPOSIUM (A3)  
Mars Exploration – missions current and future (3A)

Author: Dr. Wei Gao  
Beijing Aerospace Control Center (BACC), China, gaowei\_bacc@163.com

THE STUDY OF DISTRIBUTED OPERATING MODE IN CHINA'S FIRST MARS MISSION

**Abstract**

China will launch the first Mars probe in July, 2020. It will arrive at Mars about 7 months later. After braking control, it flies in the orbit of Mars. Then, Land rover separates from aircraft. The aircraft will continue to run in the orbit round the Mars and provide communication with control center for land rover, land rover will land on the surface of Mars and go about detection. Because of long distance and big time delay, it will be very complex to control. Beijing Aerospace Control Center is in charge of this mission and other departments will provide support. Traditional operating mode is that all related departments will be concentrated in the center during the mission. But Mars mission takes for a long time. It is not true for this mode. We provide distributed operating mode. Every department will make cooperative operation through remote work station. The paper describes how to fulfill the distributed operating mode. It includes remote video conference, data countersign, mission planning etc..